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TECHNICAL TRANSLATIONS

Volume 8, Number 12 Pages 1195-1266 December 30, 1962

*Descriptors marked with an asterik are listed in the subject index.

BIBLIOGRAPHY

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 8. 29 Oct 62 [50]p. JPRS: 15916.
Order from OTS or SLA $4.60 62-33666

Consists of abstracts of articles from 1962 issues of East European scientific journals published in Czechoslovakia, East Germany, Poland, Rumania, and Yugoslavia.

DESCRIPTORS: Abstracts, *Scientific reports, *Czechoslovakia, *East Germany, *Poland, *Rumania, *Yugoslavia.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 24 (METALLURGY SERIES) [AND] (ELECTRONIC AND POWER ENGINEERING SERIES). 25 Sep 62 [9]p. JPRS: 15428.
Order from OTS or SLA $1.10 62-33130

Trans. of selected abstracts from Referativnyi Zhurnal. Metallurgiya (USSR) 1962, no. 3 and Referativnyi Zhurnal. Elektrotekhnika i Energetika (USSR) 1962, no. 10.

DESCRIPTORS: *Abstracts, Bibliography, *Metallurgy, *Power plants, Electronics, China.

Library of Congress, Washington, D. C.
MONTHLY INDEX OF RUSSIAN ACCESSIONS.
Nov 62, 325p.
Order from GPO $12.00/year

This index is a record of the publications in languages spoken in the Soviet Union currently received by the Library of Congress and a group of cooperating libraries. It consists of three parts: Part A lists monographic literature published after 1944, with the title in the original language preceded by its English translation; Part B lists periodicals published after 1946; Part C constitutes a subject guide to both the monographs and periodical articles listed in Parts A and B.

AGRICULTURE

SOVIET AGRICULTURE [SELECTED TRANSLATIONS] NO. 56. 8 May 61, 17p. JPRS: 8138.
Order from OTS $0.50 61-21598

Trans. of Kommunist Ukrainy (USSR) 1960, no. 7, p. 42-49 and Molochnoe i Myasnoe Skotovodstvo (USSR) 1960 [v. 5] no. 10, p. 1-3.

DESCRIPTORS: Production, *Agriculture, *Cattle, Reproduction, Milk, *Food.

Contents:
Fulfill the seven-year plan in four years, by I. Grushetskii
Successfully conduct the wintering of cattle
Let us increase hay meal production, by A. Fedorov.

SOVIET AGRICULTURE: SELECTED TRANSLATIONS NO. 31 (FARM MACHINERY). 30 Nov 60, 18p. JPRS: 6322.
Order from OTS or SLA $1.10 61-11518

Trans. of Traktory i Sel'khozmashiny (USSR) 1960, v. 30, no. 8, p. 1-2, 38-39; no. 9, p. 1-2; Tekhnika v Sel'skom Khozyaistve (USSR) 1960 [v. 20] no. 4, p. 74; Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1960, no. 8, p. 52-53.

DESCRIPTORS: *Agriculture, *Machines, Automation, Roller bearings, *Tractors.

Contents:
Advanced technology for agriculture, by V. I. Lozovoi
For the further fulfillment of the decisions of the 21st Congress of the CPSU
An automatic plant for the production of roller-bearing chains, by B. N. Firsov
The TB-4 marshland tractor, by K. Gakhenson
The T-50 V tractor, by V. N. Donde.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 37. 27 Sep 62 [50]p. JPRS: 15463.
Order from OTS or SLA $5.60 62-33347

Trans. (some in part) of Traktory i Sel'khozmashiny (USSR) 1962 [v. 32] no. 4, p. 1-2, 38-42; no. 5, p. 1-3, 5-7, 35-37; Mashinostroitel' (USSR) 1961 [no. 5]p. 1-2; Tekhnika v Sel'skom Khozyaistvo (USSR) 1962 [v. 22] no. 4, p. 50 and 52-56; Sovkhoznoe Proizvdstvo (USSR) 1962, no. 7, p. 54-56; Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 6, p. 62-70; Ekonomicheskaya Gazeta (USSR) 1962, no. 24[45] p. 23 and 27; and 6 selected 1962 issues of Russian newspapers.

DESCRIPTORS: *Agricultural machinery, *Industrial production, *Tractors, Potatoes, *Irrigation systems, Hoses, Cereals, Animals, Dehydrators.

Contents:
The most important tasks of the tractor and farm-machinery industry, by N. N. Tarasov
The director of the Rigasel'mash plant gives an interview
Lithuanian agricultural-machine building, by P. Kul'vets
Who is holding up the assembly of combines
Agricultural machine building production
An orchard and vineyard tractor, by A. Dyatchin and D. Kravets
Transplanting machines, by M. Chubarin
SKBN-4 transplanting machine, by A. Chernyak and A. Dobyshev
Delays in the production of potato-harvesting machines, by G. Slutskii and I, Sokolov
Plant fails to assemble potato harvesters
VS-10 grain-cleaning machine, by N. G. Pogodin
Machines tested at the TsMIS, by N. E. Avdeev and others
Tractor-mounted PShN-165 hose irrigator, by V. A. Vishnevskii
FS-0.9A orchard cutter, by E. A. Klimova
More machines for Kolkozes and Sovkhozes, by G. I. Volkov
Wheeled truck-tractors and their use in agriculture, by B. V. Shishkin
Results of tests of the new T-130 truck-tractor, by B. L. Magarillo and M. V. Yakovlev
New machinery: machines for the north-west zone, by L. Ivtodii
Ukranian designers: for animal husbandry-men and machine operators, by V. Vasil'ev and A. Vasil'ev
Where is the new Lipetsk tractor, by L. Kozhevnikov
Agricultural tractor trailers NAMI-783 and 785, by L. Ya. Martsinovskii and Yu. P. Sorochan
The universal ZhBA-3.5 bean windrower, by B. F. Ostankovich
The VPT-400 hot air dryer, by G. A. Rovnyi
The universal KShp-3 grain loader grade, by V. G Barmak
Combines moving slowly, by V. Belov
Agricultural machinery type-sizes confirmed
With the emblem "OTZ", by S. Schetinin.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 38, 27 Sep 62 [23]p. JPRS: 15467.
Order from OTS or SLA $2.60 62-33348

Trans. of Ekonomicheskaya Gazeta (USSR) 1962, no. 12(33) p. 8-9; no. 14(35) p. 13, 26; Narodnoe Khozyaistvo Uzbekistana (USSR) 1962 [v. 4] no. 1, p. 35-37; from Rabochaya Gazeta (USSR) 1962, 28 June; partial trans. of Sel'skoe Khozyaistvo Severo-Zapadnoi Zony (USSR) 1962 [v. 5] no. 5, p. 69-71.

DESCRIPTORS: *Agricultural machinery, *Industrial production, *Tractors, Piston rings, Manufacturing methods, Supplies, Beets, *Cotton, Machines.

Contents:
Beyond the limits of the plan, by I. Sakharov
We are perfecting agricultural machinery, by N. Morozova
Tractor and agricultural machinery spare parts difficulties, by V. Komarnitskii and O. Chechin
Irkutsk Avtotraktorodetal' Plant's difficulties, by M. Zykov and P. Moshchitskii
Supply difficulties of Kiev Plant imeni Lepse
Production difficulties of the Omsk Sibzavod Plant, by P. Fedosenkov
Tractors on pins, by I. Batov
Machines for the cultivation of sugar beets, by V. Shtrom
Six thousand cotton picking machines, by G. Demidov.

Evlakhova, A. A.
HELPING THE NATIONAL ECONOMY IN THE USSR (USE OF ENTOMOPATHOGENIC FUNGI IN THE CONTROL OF HARMFUL INSECTS). 1 Oct 62 [11]p. 34 refs. JPRS: 15499.
Order from OTS or SLA $1.10 62-33328

Trans. of Botanicheskii Zhurnal (USSR) 1961, v. 46, no. 12, p. 1774-1780.

DESCRIPTORS: *Pest control, *Insects, Diseases, *Fungi, Plants.

Kardash, V. A.
CALCULATION OF THE OPTIMAL STRUCTURE OF SOWN AREAS IN A FARM WITHIN THE FRAMEWORK OF AGROTECHNICALLY WELL-FOUNDED CROP ROTATION ALTERNATIVES. 27 Aug 62 [35]p. JPRS: 14993.
Order from OTS or SLA $3.60 62-32561

Trans. of Leningrad U. Vestnik (USSR) 1962 [v. 17] no. 11, Seriya Ekonomikii Filosofii i Prava [no. 2] p. 26-40.

DESCRIPTORS: *Agriculture, Mathematical prediction, Production, Plants, Animals, Economics.

The article deals with the question of the choice of the optimal structure of sowing areas in the socialist economics by means of the construction, solution and analysis of a linear statical model. The author stresses the necessity of the joint solution of two sides of the problem: agrotechnical and economic, and gives a conventional numerical example. (Author)

Pham Duc Long.
RESISTANCE OF SOIL IN NORTH VIETNAM. 28 Aug 62 [10]p. JPRS: 15017.
Order from OTS or SLA $1.10 62-32569

Trans. of Khoa Hoc Ky Thuat Nong Nghiep [sic] (North Vietnam) 1962, no. 4, p. 22-25.

DESCRIPTORS: Agriculture, *Soils, Resistance, *Agricultural machinery, *Humidity, *Hardness, Mathematical analysis, *Vietnam.

Plant Cultivation

PROCESS FOR THE DRYING OF TOBACCO. [1962] 4p.
Order from K-H $5.00 K-H 5550-c

Trans. of German patent 532, 106 [1931].

DESCRIPTORS: *Tobacco, *Dehydration, Processing.

Rainiss, Lajos.
THE DAMAGE CAUSED BY THE POTATO EELWORM. 16 Mar 62 [10]p. JPRS: 13014.
Order from OTS or SLA $1.10 62-23634

Trans. of Novenytermeles (Hungary) 1961, v. 10, no. 3, p. 269-274.

DESCRIPTORS: *Potatoes, *Parasites, Nematodes, Identification, Plants.

ASTRONOMY

Astrophysics

PHENOMENA IN THE UPPER ATMOSPHERE: REVIEW OF SOVIET LITERATURE. Monthly rept. no. 23 on Soviet Developments in Selected Problems in Astrophysics and Geophysics; AID Work Assignment no. 3. 31 Mar 62 [37]p. 16 refs. AID rept. 62-40; AD-277 726.
Order from OTS or SLA $3.60 62-25767

DESCRIPTORS: *Upper atmosphere, Solar energy, *Ionosphere, Electric currents, Terrestrial magnetism, Van Allen radiation belt, Solar corona, Solar disturbances, Solar flares, Aurorae, Viscosity, Sun spots, Solar atmosphere, Ionization, Mathematical analysis, Ionospheric disturbances, X-rays, Solar eclipse, Geophysics, Meteorology, Earth.

Contents:
Solar radiation and the ionosphere
Telluric currents
Meteorology of the upper atmosphere.

Fialko, E. I.
SULLA PRECISIONE DELLA MISURAZIONE DEI PARAMETRI DI UN RADAR, DESTINATO ALL'OSSERVAZIONE DI METEORE (About Precision of the Measurement of the Parameters of Radar Destined for the Observation of Meteors). 10p. 6 refs. CNP-2 (text in Italian).
Order from OTS or ETC $1.55 62-26081

Trans. of Radiotekhnika (USSR) 1960, v. 15, no. 6, p. 67-69.

DESCRIPTORS: *Radar, *Meteors.

Molchanov, A. P.
THE SPECTRUM OF A LOCAL SOURCE OF RADIO EMISSION ON THE SUN. 15 Aug 62 [6]p. 5 refs. FTD-TT-62-594; AD-284 129.
Order from OTS or SLA $1.10 62-33400

Unedited rough draft trans. of Solnechnye Dannye (USSR) 1960, no. 4, p. 72-75.

DESCRIPTORS: *Sun, *Radio signals, *Radio astronomy, Sunspots, Solar eclipse, Extraterrestrial radio waves, Spectrographic data.

Mustel', E. R. and Tsap, T. T.
THE SPECTROPHOTOMETRY OF BRIGHT REVERSALS IN THE H AND K LINES OF THE SPECTRUM OF SUN-SPOT UMBRAE. 6 Aug 62 [11]p. 2 refs. FTD-TT-62-596; AD 284 081.
Order from OTS or SLA $1.60 62-33066

Unedited rough draft trans. of Akademiya Nauk SSSR. Krymskaya Astrofizicheskaya Obŝervatoriya. Izvestiya, 1960, v. 22, p. 75-80.

DESCRIPTORS: *Sunspots, Periodic variations, *Spectrographic analysis, Hydrogen, Potassium.

The profiles of the K and H emission lines in the spectrum of sun-spot umbrae were studied. Fig. 2 gives typical recordings of the spot spectrum in the K line and the plage spectrum. All the recordings of the spot spectra exhibit a slight asymmetry in the upper part, which is evidently connected with the Evershed effect. The solid lines in Figs. 3 to 5 give the profiles of a single reversal in K, Ca II lines in the spectrum of three spots. These profiles are in good agreement with formula (5) with a turbulent velocity $v_t = 0$ and $N_1 \approx 4 \times 10^{15}$ cm^{-2} (Author)

Shklovskii, I. S.
SI PUÒ COMUNICARE CON ALTRI PIANETI? (Can one Communicate with other Planets?) 13p. CNP-51. (text in Italian).
Order from OTS or ETC $1.85 62-26123

Trans. of Priroda (USSR) 1960, no. 7, p. 21-30.

DESCRIPTORS: *Planets, *Communication systems.

BEHAVIORAL SCIENCES

CURRENT PROBLEMS OF CYBERNETICS. 2 July 62 [11]p. JPRS: 14354.
Order from OTS or SLA $9.10 62-25616

Trans. of selected articles from Tekhnika Molodezhi (USSR) 1961 [v. 29] nos. 10-12 and 1962 [v. 30] nos. 1-4.

DESCRIPTORS: *Cybernetics, *Computers, Automation, Information theory, *Bioelectronics, Medicine, *Psychology, Reasoning, *Chemical engineering, Communism.

Contents:
Introduction, by A. N. Kolmogorov
Automatic machines and life, by A. N. Kolmogorov
Automation of mental work, by N. G. Bruevich
It is possible to derive equations of health, by S. A. Stebakov
Can the machines have psychology, by E. Kol'man
Chemical cybernetics, by P. Kuznetsov
A living being and a technical device, by I. I. Artobolevskii and A. E. Kobrinkskii
A robot examiner
Cybernetics; to the service of Communism, by A. Berg
New chapters from the book "Cybernetics", 2d ed., by Norbert Wiener

Psychology

Gegesi-Kiss, Pal.
ORGANIZATION AND TASKS OF THE COMMITTEE ON PSYCHOLOGY OF THE HUNGARIAN ACADEMY OF SCIENCES. 24 Apr 61 [7]p. JPRS: 4552.
Order from OTS or SLA $1.10 62-19211

Trans. of Magyar Pszichologiai Szemle [sic] (Hungary) 1960, v. 17, no. 1, p. 1-8.

DESCRIPTORS: Scientific organizations, *Psychology, *Hungary.

Sokolov, E. N., Mikhalevskaya, M. B., and Gorbov, F. D.
THE TESTING STIMULUS METHOD [AND] THE PROBLEM OF THE MECHANISM OF RETROGRADE AND ANTEROGRADE AMNESIA. 5 July 62 [23]p. 13 refs. JPRS: 14378.
Order from OTS or SLA $2.60 62-25599

Trans. of #Voprosy Psikhologii (USSR) 1962 [v. 8] no. 1, p. 28-44.

DESCRIPTORS: Stimulation, Light, Reaction (Psychology), *Reaction time, *Visual thresholds, Measurement, *Memory, Perception.

On the basis of consideration of the latent periods of the reactions we may distinguish three methods of using the testing stimulus for determining the absolute threshold: (a) determination of the average figure and the region of threshold intensities; (b) finding the most probable value of the threshold; (c) referring the stimulus to one of the intensity groups which is clarified progressively with repetition of the stimulus. (Sokolov and Mikhalevskaya) We analyzed cases of very transitory states occurring during flight in various pilots. On the basis of analysis of the flight circumstances in a given period of space-time, it was determined that disorders of consciousness during the period of the supposed loss of consciousness did not occur; on the other hand, there was a continuous purposeful very intense activity in controlling the airplane. The feeling of the lapse of consciousness which had just occurred came from the "instruments", so to speak, that is, at some moment or other the instrument readings appeared to have just come in, as though occurring after a brief interruption. (Gorbov)

Personnel and Training

DIRECTIVES OF THE CZECHOSLOVAK STATE COMMISSION FOR SCIENTIFIC DEGREES: LIST OF LOCATIONS AND SCIENTIFIC FIELDS FOR THE UPHOLDING OF DISSERTATIONS AND CONFERRING OF ACADEMIC DEGREES (MODIFICATIONS AND ADDENDA) NO. 15396/62-III/S-2, 3 APR 62. 9 Aug 62 [55]p. JPRS: 14781.
Order from OTS or SLA $5.60 62-32363

Trans. of Ministerstvo Skolstvi a Kultury. Vestnik (Czechoslovakia) 1962, v. 18, no. 11, p. 156-171.

DESCRIPTORS: Scientific personnel, *Theses, Scientific reports, Education, *Universities.

GREETINGS FROM ZYGMUNT MOSKWA, COMMUNICATIONS MINISTER; COMMUNICATIONS THANKS THEM. 2 Aug 60 [4]p. USASIA: H-6826a; JPRS: R-1049-D.
Order from OTS or SLA $1.10 60-31523

Trans. of Lacznosc (Poland) 1960 [v. 11] no. 10, p. 1.

DESCRIPTORS: *Communication systems, Scientific personnel, Women, *Poland.

SCIENTIFIC ATTAINMENTS OF WOMEN IN COMMUNICATIONS. [1960] [4]p. USASIA: H-6826b; JPRS: R-1050-D.
Order from OTS or SLA $1.10 60-31524

Trans. of Lacznosc (Poland) 1960 [v. 11] no. 10, p. 1.

DESCRIPTORS: *Communication systems, Scientific personnel, Women, *Poland.

SOVIET MEDICAL SCIENTISTS AND ORGANIZATIONS. 19 Oct 62 [94]p. JPRS: 15797.
Order from OTS or SLA $8.60 62-33527

Trans. of selected biographies and short articles from Bol'shaya Meditsinskaya Entsiklopediya (USSR) 1960-62, v. 18-25.

DESCRIPTORS: *Medical personnel, Scientific organizations, *Medicine.

Contents:
V. V. Miloslavskii, A. A. Minkh, G. A. Miterev, A. L. Mndzhoyan, Z. K. Mogilevchik, N. S. Molchanov, O. P. Molchanova, N. I. Morozkin, M. A. Morozov, V. N. Moshkov, S. D. Moshkovskii, M. P. Mul'tanovskii, A. L. Myasnikov, V. K. Navrotskii, G. M. Natadze, V. A. Negovskii, V. S. Nemerko, A. N. Nesmeyanov, A. I. Nesterov, A. P. Nikolaev, N. P. Novachenko, O. P. Nogina, A. N. Obrosov, L. A. Oganesyan, B. V. Ognev, N. G. Olsuf'ev, A. I. Oparin, V. N. Orekhovich, S. T. Pavlov, E. N. Pavlovskii, A. V. Palladin, V. V. Parin, L. S. Persyaninov, G. N. Pershin, S. Petkovik, P. A. Petrishcheva, B. A. Petrov, B. D. Petrov, I. R. Petrov, F. N. Petrov, N. N. Petrov, B. V. Petrovskii, I. A. Piontkovskii, K. K. Planel'es, V. P. Pod'yapol'skaya, V. A. Pokrovskii
Ministry of Health USSR, by S. Kurashov
Odessa Medical Institute imeni N. I. Pirogov, by L. Grabovskaya.

WHAT DIRECTORS OF COMMUNICATIONS SERVICES DESIRE: THAT WE WORK BETTER. 2 Aug 60 [6]p. USASIA: H-6821b; JPRS: R-1054.
Order from OTS or SLA $1.10 60-31528

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 51/52, p. 3.

DESCRIPTORS: *Communication systems, *Poland, Personnel, *Telephone communication systems, *Postal systems, *Radio stations, *Television, Construction.

Petrov, E.
COSMONAUTS. 5 June 62 [14]p. FTD-TT-62-726.
Order from OTS or SLA $1.60 62-32427

Unedited rough draft trans. from Krasnaya Zvezda (USSR) 1962, 4 Mar and 7 Mar.

DESCRIPTORS: *Astronauts, *Space flight, Training.

Contents:
Charged with speed
When the world is silent.

Petrov, E.
COSMONAUTS. 6 June 62 [43]p. FTD-TT-62-728.
Order from OTS or SLA $4.60 62-32428

Unedited rough draft trans. from Krasnaya Zvezda (USSR) 1962, 6, 8, 10, 21, 25, 27 Feb.

DESCRIPTORS: *Astronauts, *Space flight, Training, Physical fitness.

Contents:
Paternal advice
The terrible commission
The brooks merge
A running start
True friendship
The flight group.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 23 (BIOLOGY SERIES). 24 Sep 62 [20]p. JPRS: 15398.
Order from OTS or SLA $1.60 62-33125

Trans. of selected abstracts from Referativnyi Zhurnal. Biologiya (USSR) 1961, no. 10.

DESCRIPTORS: *Abstracts, *Bibliography, Biology, China, *Agriculture, *Animals, *Microbiology, Morphology, *Pathology, *Pharmacology, *Physiology, *Plants, *Soils.

COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY: [SELECTED] TRANSLATIONS NO. 7. 1 Oct 62 [21]p. JPRS: 15526.
Order from OTS or SLA $1.60 62-33318

Trans. from Chung Kuo Ch'ing Nien Pao (Chinese People's Republic) 1962, 4 Sep, p. 4 and Kuang Ming Jih Pao (Chinese People's Republic) 1962, 26 Aug, p. 2.

DESCRIPTORS: *Scientific personnel, Personnel, *Biology, *China.

Contents:
Science requires the service of man's lifetime: commemorating the late Mr. Chu Hsi, by Shen Chuang
Learn Mr. Chu Hsi's scholarly spirit, by Chuang Hsiao-te.

DEFENSE AGAINST BIOLOGICAL WARFARE [AND] MARKING OF CONTAMINATED AREAS. 8 Oct 62 [33]p. JPRS: 15613.
Order from OTS or SLA $3.60 62-33301

Trans. of mono. (booklet) pub. by ABC Secretariat of the Norwegian Defense Forces, 1958, 52p. and mono. Chemical Warfare, suppl. 12, n.p., 1961, p. 195-196.

DESCRIPTORS: *Biological warfare, *Civilian defense systems, Biological warfare agents, Bacteria, Bacterial toxins, Viruses, Fungi, Insects, Hormones, Infections, *Disease carriers, *Contamination, Markers.

THE EXPANSION OF SCIENTIFIC RESEARCH, 1960, NO. 6: SELECTED ARTICLES. 27 Feb 62 [66]p. JPRS: 12711.
Order from OTS or SLA $6.60 62-19770

Partial trans. of l'Expansion de la Recherche Scientifique [sic] 1960, no. 6.

DESCRIPTORS: *Scientific research, *Medicine, Inertia, Physiology, Vital statistics, *Education, Scientific personnel, Hospitals, Research program administration.

Contents:
The battle against inertia, by J. L. Cremieux-Brilhac
What can be done, by L. Bugnard
Physiology of French medical research, by J. P. Bader
Oprions for medical research, by P. Baille
Research scientists and reform, by J. Dausset
Some advice to the young ... and to the old, by M. Bessis
Could selection be made without bookish and fruitless competitive examinations, by J. Thomas
A desperate problem; the premises, by B. Pullman
At a university hospital ..., by Jean Scherrer
...In specialized centers, by B. N. Halpern
Researchers will be able to command a second remuneration in the large hospital-university centers, by Girod de l'Ain
The administration of medical research, by R. Schwob
A tutor for students, by Andre Kahane
The life of the Study Association for the Expansion of Scientific Research.

HERALD OF THE ACADEMY OF MEDICAL SCIENCES, 1962, VOL. 17, NO. 4: SELECTED ARTICLES. 7 Aug 62 [82]p. FTD-TT-62-963; AD-284 101.
Order from OTS or SLA $8.10 62-33092

Unedited rough draft trans. of Akademiya Medits[inskikh Nauk SSSR]. Vestnik, 1962 [v. 17] no. 4, p. 7-26, 38-44 and 82-93.

DESCRIPTORS: *Medicine, *Adaptation (Physiology), Resistance, *Clinical death, Endocrine glands, Pathology, Scientific research, Microbiology, Physiology.

Contents:
Problems of the Academy of Medical Sciences USSR in light of the resolutions of the XXII Congress of the Communist Party USSR, by N. N. Blokhin
General principles of forming protective devices for the organism, by P. K. Anokhin
Effect of endocrinal adaptation factor and compensation in the genesis of certain pathological states, by V. G. Baranov
Discussion on reports of the scientific department of the XVI session of the general assembly of Academy of Medical Sciences USSR, devoted to the problem of protective functions of the organism.

Bernshtein, N. A.
CONTROL PROCESSES IN LIVING ORGANISMS PHYSIOLOGY OF ACTIVITY - THE NEXT PROBLEMS. 13 Mar 62 [73]p. 39 refs. JPRS: 12951.
Order from OTS or SLA $7.60 62-23426

Trans. of #Problemy Kibernetiki (USSR) 1961, no. 6, p. 101-160.

DESCRIPTORS: *Human engineering, *Cybernetics, Control, Physiology, Neurology, *Nervous system, Sensory preception, Motor reactions, *Data processing systems, Psychology, Data storage systems, Reaction (Psychology), Data transmission systems, Automation, Neuromuscular transmission, *Switching circuits, Corrections, *Autonomic nervous system, Programming.

Blinov, N. O.
UNO STUDIO DEGLI ANTIBIOTICI ANTIFUNGHI (Antifugal Antibiotics of Candicidin Type). 13p. CNP-6 (text in Italian).
Order from OTS or ETC $1.85 62-26085

Trans. of Antibiotiki (USSR) 1958, v. 3, no. 11, p. 58-62.

DESCRIPTORS: *Antibiotics, *Streptomyces, Chromatographic analysis.

Davydovskii, I. V.
COMPENSATORY ADAPTION PROCESSES. 22 Oct 62 [19]p. 10 refs. JPRS: 15811.
Order from OTS or SLA $1.60 62-33522

Trans. of Klinicheskaya Meditsina (USSR) 1962, v. 40, no. 7, p. 3-14.

DESCRIPTORS: *Psychosomatic medicine, *Adaptation (Physiology), Genetics, Psychology, Physiology, Pathology.

Man has made the process of cognition the leading principle in the evolutional development of his nature. The latter, however, has not lost its biological basis. Only by adapting himself biologically can man evolve as a social unit. The unity of the biological and social, their inseparability in existence and consciousness, determine the adaptive regulation of functions as the most important law and essence of life functions. The same unity determines the forms and content, i. e., evolution in the reorganization of the very nature of man. However, the adaptive regulation is not absolutely expedient. It implies, as a legitimate phenomenon, not only life, but also death; not only health, but infirmities and diseases as well. Man becomes involved in his activities without being able to evaluate always and scientifically the subjective and social "I wish," "I must" with the objective and biological, which he actually "has" and "can" accomplish painlessly, i. e., without substantially impairing the biological rhythms, periods, and inner physiological constants within the "minutest elements." During the brief historical periods, man changed his usual ideas of time and space; he has been altering his ecology and forms of labor, and is testing the stability and perfection of the adaptation devices which have been evolutionally and hereditarily reinforced in him, and which in individual moments are apparently not always adequate to the conditions and manner of his life. The adaptation idea is thus inseparable from the problems of etiology, pathogenesis. and substance of the diseases of man. (Author)

Genkin, A. M. and Volkov, M. S.
LA RIDUZIONE DELLA METEMOGLOBINA CON ACIDO GLUTAMMICO (The Reduction of Methemoglobin with Glumatic Acid). 7p. 13 refs. CNP-33. (text in Italian).
Order from OTS or ETC $1.55 62-26105

Trans. of Byulleten Eksperimental'noi Biologii i Meditsiny (USSR) 1959, no. 3, p. 50-52.

DESCRIPTORS: *Glutamic acid, *Animals, *Injection, Sodium compounds, Nitrites.

Gredgev, A. F.
ALCUNI PARTICOLARI TECNICI DELLA COLANGIOGRAFIA SUL TAVOLO OPERATORIO (Some Technical Particularities of the Cholangiography on the Operating Table). 7p. CNP-34. (text in Italian).
Order from OTS or ETC $1.55 62-26106

Trans. of Khirurgiya (USSR) 1957, no. 3, p. 111-113.

DESCRIPTORS: *Bile, Surgery, Operation tables.

Nikols'ka, O. O. and Kharchenko, S. M.
ALL-UNION CONFERENCE ON MYCOTOXICOSES OF MAN AND FARM ANIMALS (NO. 2) [AND] JOINT SESSION OF THE UKRAINIAN MICROBIOLOGICAL AND ASTRONOMICAL SOCIETIES, 20 Oct 61. 7 May 62 [9]p. JPRS: 13721.
Order from OTS or SLA $1.10 62-24738

Trans. of Mikrobiologichnyi Zhurnal (USSR) 1962, v. 24, no. 1, p. 64-66.

DESCRIPTORS: *Conferences, Infections, Bacteria, Fungus infections, Man, Animals, *Microbiology, *Astronomy, Scientific organizations.

Paech, K[arl].
THE BIOGENESIS OF SECONDARY PLANT MATERIALS. [1962] 15p.
Order from K-H $18.75 K-H 3742

Trans. of mono. Congr[ès] Intern[ational de] Botan[ique] (no. 8) Paris, 1954. Rapp[orts] et Commun[ications] sect. 11-12, p. 49-56.

DESCRIPTORS: Biology, *Plants, Metabolism, *Nutrition.

Reale, E. and Bucher, O.
ULTRASTRUCTURE OF THE JUXTAGLOMERULAR SYSTEM OF THE KIDNEY (Sur l'Ultrastructure de l'Appareil Juxtaglomérulaire du Rein). [1962] 3p. 2 refs.
Order from SLA $1.10 62-10732

Trans. of Experientia (Switzerland) 1961, v. 17, 15 Sep, p. 430-431.

DESCRIPTORS: *Kidneys, *Electron microscopy, *Tissues (Biology), Cells (Biology), Morphology.

Stroganova, N. S.
AMITOSIS DURING SPERMATOGENESIS IN MAMMALS. [1962] 5p.
Order from ATS $8.25 ATS-44P62R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1952, v. 85, no. 4, p. 897-900.

DESCRIPTORS: *Mammals, *Spermatogenesis, Cells (Biology).

JOURNAL OF PHYSICS, 1962 [VOL. 48] NO. 4: SELECTED ARTICLES. 2 Aug 62 [31]p. 7 refs. FTD-TT-62-962; AD-284 157.
Order from OTS or SLA $3.60 62-33075

Unedited rough draft trans. of #Fiziologicheskii Zhurnal SSSR, 1962 [v. 48] no. 4, p. 444-454 and 499-501.

DESCRIPTORS: Biophysics, *Respiration, Stimulation, *Oxygen, *Brain, Blood pressure, Climatic factors, *High altitude, *Rhythm, Fatigue (Physiology)

Contents:
Origination of complex periodical respiration at rhythmical stimulation of receptors of the sino-carotid zone at mountain heights, by B. Turusbekov
Respiration at higher pressures and oxygen tension in brain tissues, by E. A. Kovalenko and F. V. Babchinskii
Symposium of problems of fatigue and recovery of fitness, Moscow, 16-18 Nov 61, by N. V. Zimkin.

NEWS OF THE ACADEMY OF SCIENCES OF THE TURKMEN SSR BIOLOGICAL SCIENCE SERIES, 1962, NO. 3: SELECTED ARTICLES. 5 Oct 62 [43]p. 56 refs. FTD-TT-62-1201.
Order from OTS or SLA $4.60 62-33636

Unedited rough draft trans. of Akademiya Nauk Turkmenskoi SSR [Ashkhabad]. Izvestiya. Seriya Biologicheskikh Nauk, 1962, no. 3, p. 52-73.

DESCRIPTORS: Biology, Temperature, Physiology, *Blood plasma, Biochemistry, Thyroid gland, *Heat tolerance, Tissues (Biology), *Dehydrogenases, Leukocytes, *Hyperthermia, *Phagocytosis, *Riboflavin, Cardiac muscle, Sodium, Potassium, Electrolytes (Physiology), Body temperature.

Contents:
The effect of the high temperature of the environment on various physiological and biochemical reactions of an organism, by A. Kh. Babaeva
Variation in the sodium and potassium cation concentration in rabbit blood plasma on overheating, by A. Kh. Babaeva
Variation of the blood serum protein composition upon overheating, by N. N. Stefanovskaya
The effect of thyroidectomy on the tolerance and degree of tissue dehydration in acute overheating, by A. A. Nepesov and E. P. Serebryakov
The effect of overheating on succinic dehydrogenase activity in the heart muscle of white rats, by E. L. Perel'man
Leukocytic formula and phagocytic activity of blood leukocytes in hyperthermia, by A. T. Berdyeva
The effect of overheating on the riboflavin in white rat tissues, by E. L. Perel'man.

Aonuma, S., Hama, T. and others.
STUDI SUL CUORE. 4a COMUNIC. PROPRIETA CHIMICHE DELLA SOSTANZA EFFETTIVA. 5a COMUNIC. FRAZIONE DI PROTEINA DEL MUSCOLO DEL CUORE. 6a COMUNIC. INFLUENZA DI ESTRATTO DI CUORE SULLA INCORPORAZIONE 32/P NEL CUORE DI TOPO (Heart. IV. Chemical Properties of the Effective Substance. V. Protein Fraction from the Heart Muscle. VI. Influence of Heart Extract on P^{32} Incorporation into Rat Heart Muscle). 26p. CNP-14. (text in Italian).
Order from OTS or ETC $2.37 62-26093

Trans. of Yakugaku Zasshi (Japan) 1959, v. 79, p. 1429-1440.

DESCRIPTORS: *Heart, Muscles, *Proteins, *Blood pressure, Rats.

Gazenko, O, Sergeev, G. and others.
PHYSIOLOGICAL INVESTIGATIONS ON "VOSTOK-2" [AND] AVIATION MEDICINE 15 Oct 62 [14]p. JPRS: 15706.
Order from OTS or SLA $1.60 62-33443

Trans. of Aviatsiya i Kosmonavtika (USSR) 1962 [v. 44] no. 7, p. 29-34 and 90-91.

DESCRIPTORS: *Space medicine, *Weightlessness, Physiology, *Space flight, *Aviation medicine.

Gurovskii, N. N. and Gerd, M. A.
IN THE SPACEFLIGHT LABORATORY. 8 June 62 [16]p. FTD-TT-62-652.
Order from OTS or SLA $1.60 62-32301

Unedited rough draft trans. of Nauka i Zhizn' (USSR) 1961 [v. 28] no. 10, p. 21-28.

DESCRIPTORS: *Space flight, Laboratories, *Laboratory animals, Astronauts, *Space medicine, Automatic, Feeding, Physiology, Preparation.

Kirzon, M. V., Mineev, Yu. V., and Burmistrov, Yu. M.
CHANGE IN IMPEDANCE OF THE NERVE STEM OF A FROG UNDER THE ACTION OF VISIBLE LIGHT. 14 Aug 62 [10]p. FTD-TT-62-1106; AD-284 132.
Order from OTS or SLA $1.10 62-33403

Unedited rough draft trans. of #Biofizika (USSR) 1962, v. 7, no. 3, p. 306-310.

DESCRIPTORS: *Impedance, *Nerves, Frogs, Resistance, Light, Stimulation, *Photoconductivity, Bioelectronics.

The illumination (with an incandescent bulb with a spectrum range of 300 to 700 mmk, and a luminosity of 700 meter-candles) of the nerve stem of a frog causes a decrease in the exponent (constant time 1 - 1.3 min) of ohmic composition of impedance (frequency - 10 kilocycles) reaching 0.8 - 3.0% of the initial amount. After the switching off of the light, resistance gradually increases and reaches a constant level which was found to be, however, somewhat lower than the initial resistance. The increase in resistance occurs somewhat slower than its decrease. The effect lasts temporarily in the nerve after it has lost stimulation in the 0.7 and 2.0% solution; however, during this occurrence, the pace of the increase in resistance slows down greatly after the light is switched off. Therefore, a persistent increase in electrical conductivity arises during repeated actions, and the reaction to the light against the increase in electrical conductivity is almost absent. The effect cannot be explained completely by the increase in the temperature of the specimen when it is illuminated. It is possible that it is conditioned by the photo-conductivity of the structure of the nerve stem which has semiconductor properties. (Author)

Kolesov, M. A.
VASI LINFATICI E SANGUIGNI DELLA MEMBRANA MUGOSA E DELLO STRATO SOTTO LA MUGOSA DELLA LARINGE DELL'UOMO (Lymph and Blood Vessels of the Mucous Membrane). 16p. 15 refs. CNP-9. (text in Italian).
Order from OTS or ETC $1.85 62-26088

Trans. of Arkhiv, Anatomii, Histologii i Embriologii (USSR) 1958, v. 35, no. 2, p. 91-100.

DESCRIPTORS: *Mucous membranes, Blood vessels, Lymph.

Korobova, A. A., Plotkin, A. B. and others.
THE USE OF STATIC AND STRENGTH EXERCISES ON RINGS FOR PHYSICAL TRAINING OF GYMNASTS [AND] INSTRUMENT FOR DETERMINING THE LATENT PERIODS OF MOTOR REACTIONS. 26 June 62 [17]p. JPRS: 14278. NASA N62-13575
Order from OTS or SLA $1.60 62-25524

Trans. of Teoriya i Praktika Fizicheskoi Kul'tury (USSR) 1961, v. 24, no. 1, p. 26-32 and 67-69.

DESCRIPTORS: *Physical fitness, Training, *Exercise, *Motor reactions, Reaction time, Instrumentation, Medical equipment.

Mei-lei.
CHANGE IN THE DYNAMICS OF THE FORMATION OF ELECTRIC REACTIONS OF THE VISUAL ANALYSOR IN THE PRESENCE OF HYPOXIA. 23 May 62 [13]p. 10 refs. FTD-TT-62-769.
Order from OTS or SLA $1.60 62-32313

Unedited rough draft trans. of #Fiziologicheskii Zhurnal SSSR, 1962, v. 48, no. 1, p. 11-15.

DESCRIPTORS: *Analyzers (Psychology), *Vision, Stimulation, Retina, *Bioelectronics, *Reaction time, Anoxia.

We detected in the initial component of the ERG three successive waves of the potential, indicating a complex character of the retinal response. Under normal conditions the time of the electric reaction in the visual analysor is a function of the light stimulus. At one and the same intensity of the light stimulation, the time of the electric reaction in the visual analysor is more or less stable. Under the action of hypoxia the

latent period of the "a" wave of the ERG and of the primary response of the visual cortex becomes longer. The retino-cortical time lengthens. Simultaneously the amplitude of all components of the electric reaction of the visual analysor, including the repeated discharges of the visual cortex, decreases. Under the action of hypoxia we detected an instability of the electric reactions of the visual analysor in time and in amplitude. The possible role of the reticular formation in this mechanism was discussed. The obtained data show that the transmission speed of the signals in the visual analysor is a direct index of its functional condition. It is sensitive to changes in the external and internal environment. (Author)

Moriya, H.
DELLA SOSTANZA CARDIOTONICA PRESENTE NEL MUSCOLO DEL CUORE DEI MAMMIFERI. 2. (The Cardiotonic Substance Present in the Muscle of the Heart of the Mammalia). 6p. CNP-16. (text in Italian).
Order from OTS or ETC $1.55 62-26095

Trans. of Yakugaku Zasshi (Japan) 1959, v. 79. no.11, p. 1396-1398.

DESCRIPTORS: *Cardiac muscle, Mammals, Pharmacology.

Moriya, H.
STUDI SULLA SOSTANZA CARDIOTONICA ESISTENTE NEL MIOCARDIO DEI MAMMIFERI. I. (Study of a Cardiotonic Substance Existing in the Miocardia of the Mammals). 14p. CNP-15. (text in Italian).
Order from OTS or ETC $1.85 62-26094

Trans. of Yakugaku Zasshi (Japan) 1958, v. 78, no. 4, p. 341-345.

DESCRIPTORS: *Cardiac muscle, Mammals.

Sergievskii, M. V.
SCIENTIFIC CONGRESS ALL-UNION CONFERENCE ON THE PHYSIOLOGY AND PATHOLOGY OF RESPIRATION, KUYBISHEV, 1-6 OCT 61. 26 July 62 [10]p. FTD-TT-62-995; AD-284 152.
Order from OTS or SLA $1.10 62-32987

Unedited rough draft trans. of #Fiziologicheskii Zhurnal SSSR, 1962, v. 48, no. 3, p. 369-370.

DESCRIPTORS: Conferences, *Respiration, *Pathology, *Physiology.

Simonov, P. V. and Astratyan, E. A.
THE RELIABILITY OF THE BRAIN. 11 Oct 62 [16]p. JPRS: 15653.
Order from OTS or SLA $1.60 62-33432

Trans. of Znanie-Sila (USSR) 1962 [v. 37] no. 5, p. 17-20.

DESCRIPTORS: *Brain, Reliability, Control, Nervous system, *Cybernetics, Learning.

The basic principles are reviewed which ensure the high resistance of the central nervous system against injurious influences.

Biochemistry

Izard, Camille.
BIOCHEMICAL RESEARCH ON GRAINS OF THE TOBACCO BROOMRAPE PARASITE. [1962] 13p.
Order from K-H $16.25 K-H 9039-b

Trans. of Inst[itut] Exp[erimen]t[a]l [du] Tabac. Ann[ales] (France) 1958, v. 3, no. 1, p. 77-83.

DESCRIPTORS: Biochemistry, *Parasites, *Tobacco.

Izard, Camille.
BIOCHEMICAL RESEARCHES OF THE PIGMENTATION OF N. GLAUCA GRAH. [1962] 6p.
Order from K-H $7.30 K-H 9092-b

Trans. of Inst[itut Experimental du Tabac]. Ann[ales] (France) 1958, v. 3, no. 1, p. 67-76.

DESCRIPTORS: *Biochemistry, *Pigments, *Tobacco, Plants.

Oparin, A. I. and Sisakyan, N. M.
SCIENTIFIC WORKS OF THE ACADEMICIAN A. N. BAKH. [1962] 2p.
Order from OTS or SLA $1.10 62-16809

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1941, v. 15, no. 6, p. 697-707.

DESCRIPTORS: *Scientific research, Biochemistry, *Peroxides.

Usami, Shoji and Taketomi, Noboru.
THE INTERACTION BETWEEN METHANOL AND FURFURAL ON CITRIC ACID FERMENTATION. Rept. 7 of Studies on Citric Acid Fermentation. Oct 62, 4p. 3 refs.
Order from SA $15.00 SA Code-G696

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 11, p. 2072.

DESCRIPTORS: *Citric acids, Fermentation, *Methanols, *Furfuryl alcohols, Bacteria, Ultraviolet spectroscopy.

Medical Specialties and Equipment

SOVIET TRAINING OF PHYSICIANS IN RADIOLOGY AND ROENTGENOLOGY. 19 Oct 62 [25]p. JPRS: 15783.
Order from OTS or SLA $2.60 62-33453

Trans. of Vestnik Rentgenologii i Radiologii (USSR) 1962, v. 37, no. 2, p. 72-81.

DESCRIPTORS: *Medical personnel, *Training, *X-rays, *Radiobiology, Education, Therapy.

Contents:
Some current problems in the specialization and advanced training of physicians in roentgenology, by S. A. Reinberg
Some problems of instruction in roentgenology departments, by L. S. Rozenshtraukh
Teaching of roentgenology and radiology at the Ukrainian Institute of Advanced Training for Physicians, by A. A. Lemberg
Some comments on the training of radiologists, by V. V. Kholin.

Babskii, E. B., Medvedev, M. L. and others.
PHYSICOPHYSIOLOGICAL STUDY OF A HIGH-FREQUENCY BALLISTOCARDIOGRAM OF A HEALTHY PERSON [AND] ON THE TECHNIQUE OF DYNAMIC VECTORCARDIOGRAPHIC INVESTIGATION. 12 July 62 [39]p. 21 refs. JPRS: 14454.
Order from OTS or SLA $3.60 62-25999

Trans. of Kardiologiya (USSR) 1962, v. 2, no. 1, p. 44-52 and 89-92.

DESCRIPTORS: Biophysics, *High frequency, Electric currents, *Ballistocardiography, *Vectorcardiography, Diagnosis, Bioelectronics, *Medical equipment.

Brdlik, Jiri
CZECHOSLOVAK PEDIATRICS IN THE PAST AND HOW I LIVED THROUGH IT. 30 Dec 58 [8]p. (1 illus. omitted) 1 ref. JPRS Trans. L-739-D.
Order from OTS or SLA $1.10 59-13037

Trans. of Ceskoslovenska Pediatrie (Czechoslovakia) v. 12, no. 1, p. 68-74.

DESCRIPTORS: *Pediatrics, History, *Czechoslovakia.

Microbiology

Belyakov, V. D.
SOME ADDITIONAL CONTRIBUTIONS TO THE CLASSIFICATION OF EPIDEMIC DISEASES (Eshche Raz o Klassifikatsii Epidemicheskikh Zabolevanii). 19 July 62, 15p. Trans. V-1784.
Order from OTS or SLA $1.60 62-32093

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1962, v. 33, no. 5, p. 126-129.

DESCRIPTORS: Epidemiology, Classification, *Infections, *Diseases,

Fuhs, G. Wolfgang.
THE DESTRUCTION OF HYDROCARBONS BY MICROBES. 3 July 62 [65]p. 275 refs. JPRS: 14362.
Order from OTS or SLA $6.60 62-25600

Trans. of Archiv für Mikrobiologie (Germany) 1961, v. 39, p. 374-422.

DESCRIPTORS: Decomposition, *Hydrocarbons, *Microorganisms, Oxidation, Methanes, Oils, Waxes, Aliphatic compounds, Anaerobiology, Ecology, Oxidizers, Soils, Bibliography.

Khukova, A. I.
MICROBIOLOGICAL METHODS OF STUDYING THE AIR. 12 Oct 62 [20]p. 44 refs. JPRS; 15675.
Order from OTS or SLA $1.60 62-33424

Trans. of #Mikrobiologiya (USSR) 1962, v. 31, no. 4, p. 745-757.

DESCRIPTORS: Microbiology, *Air, Analysis, *Microorganisms, Culture media, Heat, Dissociation, Air intake filters.

Vlodavets, V. V.
THE EFFECT OF AIR HUMIDITY UPON THE VIABILITY OF MICROORGANISMS IN AN AEROSOL (Vliyanie Vlazhnosti Vozdukha na Zhiznesposobnost' Mikroorganizmov v Aerozole). 2 July 62, 16p. 20 refs. Trans. V-1779.
Order from OTS or SLA $1.60 62-32092

Trans. of #Mikrobiologiya (USSR) 1962, v. 31, no. 2, p. 350-356.

DESCRIPTORS: *Air, *Humidity, *Viability, *Microorganisms, *Bacterial aerosols, Aerobiology.

In the experimental chamber, capacity of 250 l, bacterial aerosol was formed in a drop phase. Staph. albus and Sarcina lutea, isolated from the air of the building, as well as Bact. coli and Bact. prodigiosum, isolated from water, served as experimental models. Reduction of concentration of viable microorganisms in the air represents a complex process, which depends, in a closed space, on the processes of dying off of bacteria and on their settling; whereupon, various kinds of bacteria are characterized by different resistance under conditions of air medium. Microorganisms, Staph. albus and Sarcina lutea, which adapted themselves to the conditions of the air medium, are well preserved at a relative humidity of air from 12 to 98% with small fluctuations of temperature in the limits of 18.5 - 21°. These microorganisms are resistant in the drop phase of the bacterial aerosol and are removed chiefly by settlement. The gram-negative microorganisms Bact. coli and Bact. prodigiosum, which were isolated from water and which did not adapt themselves to the conditions of the air medium, are considerably less resistant in the aerosol. They die very quickly at a relative humidity of air below 50% while at a higher humidity they retain their viability pretty well. Relative humidity above 70% is the most favorable for the survivability of Bact. coli and Bact. prodigiosum in the drop phase of the bacterial aerosol at 18.5 to 21°. (Author)

CHINESE JOURNAL OF NEUROLOGY AND PSYCHIATRY, 1959 [VOL. 5] NO. 2: SELECTED TRANSLATIONS. 10 July 61 [138]p. 83 refs. JPRS: 7814.
Order from OTS or SLA $10.50 61-27114

Trans. of Chung Hua Shen Ching Ching Shen K'o Tsa Chih (Chinese People's Republic) 1959 [v. 5] no. 2, p. 97-107, 109-116, 119-120, 124-141 and 2 articles with pages not identified.

DESCRIPTORS: Neuropsychiatry, *Brain, *Tumors, Plethysmography, *Ammonia, Body fluids, Epilepsy, *Vitamins, *Nerves, *Ganglia, *Insulin, *Psychoses, *Glyoxylic acid, *Allergy, *Shock therapy, Hospitals, *Rabies, *Venerial diseases, Heart, Conferences.

Contents:
On the proper evaluations of the signs, onset and courses of development of certain brain tumors (reports of five cases) by Wang Chi-ku and Hsu Ying-k'uei
Primary experiment in pneumoencephalography under high pressure, by Chou Kuang-chih and others
Observations on ammonia content of cerebrospinal fluid of epileptic patients, by Hsieh Ch'i-ming
Vitamin B_{12} and combined degeneration, by Sun Shu-shan
Myelography, by Wu En-hui and Li Chen-i
Herpes Zoster involving the genicula ganglion of facial nerve, by Feng Kang and Liu Hsing-ts'ai
Preliminary report of experimental studies on insulin-resistant substances in the blood of insulin-resistant psychiatric patients, by Kao Pai-liang and Hsieh Te-ch'eng
Studies on the glyoxylic acid test for schizophrenia, by Chi Ming and others
Allergic reaction as a complication of insulin shock therapy, by Kao Pai-liang and Fang Ju-hui
Succinylcholine and electric shock therapy, by Hsieh Tsu-k'ang and others
Observations of the treatment of the 14 psychotics with frenquel, by Shih Hung-chang
Report on the abolition of restraints and isolation and the inauguration of a new system for convalescences at the Chung King mental hospital
Neurologic complications following inoculation with rabies vaccine, by Yeh Ch'uan-shy
Neurologic complications following the inoculation with rabies vaccine, by P'eng Yung-ken and Hsu I-keng
Clinical pathologic conference on degeneration of corpus callosum and syphilitic heart disease.

Tramer, M. and Geiger-Marty, Olivia.
RELATION BETWEEN ELECTIVE AND TOTAL MUTISM IN CHILDREN. [1962] 7p.
Order from SLA $1.10 62-16431

Trans. of Zeit[schrift] f[ür] Kinderpsychiatrie (Switzerland) 1952, v. 19 [no. 2] p. 88-91.

DESCRIPTORS: *Speech disorders, Therapy, Psychiatry.

A case is reported in which the elective mutism had not yet become manifest, while a total mutism did not exist.

BIOGRAPHIC DATA ON DR FRANJO KOGOJ. 13 June 62 [6]p. JPRS: 14099.
Order from OTS or SLA $1.10 62-25187

Trans. of [Jugoslavenska Akademija Znanosti i Umjetnosti. Odjel za Prirodne Nauke]. RAD, 1962, 21 Apr, p. 11.

DESCRIPTORS: Scientific research, Diseases, *Skin, *Venereal diseases.

COLLECTION OF THESES ON ACHIEVEMENTS IN MEDICAL SCIENCES IN COMMEMORATION OF THE 10TH NATIONAL FOUNDATION DAY OF CHINA, VOL. II: SECTIONS ON PEDIATRICS; DERMATOLOGY, TUBERCULOSIS; RADIOLOGY; MENTAL HEALTH. 14 Aug 62 [703]p. JPRS: 14829.
Order from OTS or SLA $23.50 62-32431

Trans. of mono. Ch'ing Chu Chien Kuo Shih Chou Nien I Hsüeh K'o Hsüeh Ch'eng Chiu Lun Wen Chi Hsia Chuan, v. 2, Peiping, Dec 59, p. 373-484, 521-[554], 683-773.

DESCRIPTORS: *Theses, Medicine, *Pediatrics, Diseases, *Skin, *Tuberculosis, *Radiobiology, *Mental diseases

Contents:
New China's achievements in child health
The status of clinical research in acute nephritis of children
Progress in the treatment of congenital deformities of the gastrointestinal tract in the newborn
The treatment and results of 1,026 cases of intestinal intussuception in small children
The process of dermatology in New China
A comparative study of tracing and general screening methods in the investigation of syphilitic patients
A comparative study of four different methods in leprosy investigation
An initial achievement of acupuncture in treatment of skin diseases
The achievements of New China in the control of tuberculosis
Achievements in bacteriology and immunology of tuberculosis
Progress in BCG Vaccination
The progress of medical treatment of pulmonary tuberculosis
The Chinese traditional medicine in the treatment of tuberculosis
The progress of clinical radiology in New China
The growth of pediatric surgery after the liberation
The growth and application of acupuncture-moxibustion in pediatrics
Research results on the toxic type of bacillary dysentery
Progress in pertussis research
Scientific research in the prevention and treatment of scarlet fever
The care and treatment of purulent meningitis
The prevention and treatment of measles and its research status
Research into the prevention and treatment of poliomyelitis

A study of pneumonia among infants and children in Peking during the winter of 1958 epidemic
Recent research into toxic indigestion
Prevention and treatment of tuberculosis in children and tuberculosis research
The status of work in the prevention and treatment of ancylostomiasis, ascariasis, and pinworm disease in children
An analysis of the causes of death in newborn infants
The acheivement in roentgenographic diagnosis of pulmonary silicosis
A study of the pulmonary lesions of the early schistosomiasis
The progress in roentgen diagnosis of lung flukes (paragonimiasis)
The application of splenic portogram in the study of portal hypertension
Some normal values of roentgenological anatomy
A preliminary experience with acupuncture and chinese traditional drugs in the treatment of radiation reaction
The application of radioactive isotopes in the basic and clinic medicine
New China's achievements in psychiatry
Application of artificial hibernation in practice
Some problems concerning the cause of psychasthenia and attempts to find quick treatments
Insulin treatment
Healing and preventive work in the field of childhood mental diseases.

COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY: [SELECTED] TRANSLATIONS NO. 3. 14 Aug 62 [31]p. JPRS: 14834.
Order from OTS or SLA $3.60 62-32438

Contains bibliographic information and/or excerpts of articles from Chung Hua Wai K'o Tsa Chih (Chinese People's Republic) 1961, v. 9, nos. 10-12.

DESCRIPTORS: *Medicine, *Surgery, *Pathology, Diseases, Statistical data, Hospitals.

SOVIET MEDICINE, 1962 [VOL. 26] NO. 7: [SELECTED] TRANSLATIONS. 16 Oct 62 [21]p. 14 refs. JPRS: 15742.
Order from OTS or SLA $1.60 62-33471

Trans. of Sovetskaya Meditsina (USSR) 1962 [v. 26] no. 7, p. 7-10, 15-20, 102-103.

DESCRIPTORS: *Medicine, *Tumors, *Cancer, *Artificial kidney, *Burns, Therapy.

Contents:
Urgent problems of oncology, by A. I. Serebrov
The study and experience of the use of the Soviet artificial kidney apparatus, by M. G. Anan'ev and others
First aid in burns before arrival of physician, by M. M. Gorbenko.

STUDIES ON TUMORS. 15 Oct 62 [26]p. JPRS: 15709.
Order from OTS or SLA $2.60 62-33440

Trans. of mono. Telegammaterapiya Zlekachestvennykh Opukhelei (Telegammatherapy of Malignant Tumors) Moscow, 1961, p. 5-25.

DESCRIPTORS: *Tumors, *Cancer, Gamma rays, *Radiation effects, Radiation instruments, Medical equipment.

Contents:
Principles and methods of radiation therapy of malignant tumors
Equipping a telegamma therapy office and installation of a gut-Co-400 telegamma unit.

STUDIES ON TUMORS. 23 Oct 62 [14]p. 18 refs. JPRS: 15843.
Order from OTS or SLA $2.60 62-33592

Trans. of mono. Voprosy Terapii Zlokachestvennykh Opukhlelei (Problems in the Therapy of Malignant Tumors) Kiev, 1961, p. 157-163 and 264-276.

DESCRIPTORS: *Tumors, *Atmospheric electricity, Ion sources, Radiation counters, Vitamin B complex, *Pyridoxine, Growth, Inhibition, Surgical trauma.

Contents:
Counter and generator of aeroions, by N. G. Yushchenko and M. G. Butsik
The effect of vitamin B_6 (pyridoxine) on the formation of tumors in experimental animals, by N. Ya. Dzyubke
A study of conditions which inhibit the stimulating influence of surgical trauma on the formation and metastases of tumors, by L. F. Arendarevskii
Table of contents.

Aksenova, O. V. and Messineva, N. A.
IL METABOLISMO DELLA VITAMINA B6 NEI PAZIENTI AFFETTI DA MALATTIE DEL SISTEMA DEL SANGUE (The Metabolism of Vitamin B6 in Patients with Circulation Diseases) 10p. 9 refs. CNP-40. (text in Italian).
Order from OTS or ETC $1.55 62-26112

Trans. of Problemy Gematologii i Perelivaniya Krovi (USSR) 1960, no. 12, p. 18-21.

DESCRIPTORS: *Blood circulation, *Pyridoxine, Metabolism, Diseases.

Aleksandrov, N. I., Gefen, N. E. and others.
STUDY OF OPTIMAL CONDITIONS FOR THE FORMATION OF THE ANTHRAX EXTRACELLULAR PROTECTIVE ANTIGEN IN A MILK MEDIUM (Izuchenie Optimal'nykh Uslovii Obrazovaniya Sibireyazvennogo Vnekletochnogo Zashchitnogo Antigena na Molochnoi Srede). 10 Aug 62, 14p. 8 refs. Trans. V-1792.
Order from OTS or SLA $1.60 62-32593

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1962, v. 33, no. 4, p. 9-14.

DESCRIPTORS: *Anthrax vaccine, *Culture media, *Milk, Antigens.

For the obtaining of extracellular protective anthrax antigen, a medium was developed the nutrient basis of which was the cow's milk. Glucose served as the most favorable source of energy for the production of the protective antigen in a milk medium. Sodium bicarbonate was a necessary component in the milk medium in obtaining the anthrax antigen, and it carried out the role of regulator of physical-chemical processes in the medium. Anthrax microbes began producing the protective antigen in the stage of logarithmic reproduction after the 10-14th hour of incubation; its accumulation reached the maximum after 38-42 hours of cultivation. Extracellular protective antigen is formed in the medium in the process of the metabolic activity of microbes, and is not the product of their lysis. It was established that for the concentration of the protective anthrax antigen a method can be utilized for its precipitation using two volumes of ethyl alcohol at pH= 6.0. (Author)

Aleksandrov, N. N. and Kalashnikov, S. A.
UN PARTICOLARE TUMORE BENIGNO DELLO STOMACO (DELLA CATEGORIA DEI TUMORI GLOMICI) (A Particular Benign Tumor of the Stomach (of the Category of the Glomical Tumors) 9p. 8 refs. CNP-46. (text in Italian).
Order from OTS or ETC $1.55 62-26118

Trans. of Voprosy Onkologii (USSR) 1961, no. 2, p.78.

DESCRIPTORS: *Tumors, *Stomach.

Baichikov, A. G., Vainrib, E. A. and others.
THE USE OF RARE METALS IN THE THERAPY OF VARIOUS DISEASES [AND] NEW MODEL OF APPARATUS AIK-60 FOR ARTIFICIAL BLOOD CIRCULATION. 15 Oct 62 [23]p. 50 refs. JPRS: 15693.
Order from OTS or SLA $2.60 62-33439

Trans. of Meditsinskaya Promyshlennost' SSSR, 1962 [v. 16] no. 8, p. 18-25 and 55-57.

DESCRIPTORS: *Rare earth elements, *Therapy, Rare earth compounds, Drugs, *Artificial heart, *Blood circulation, *Medical equipment, *Diseases.

Bauman, V. M., Yagodinskii, V. N., and Filippovich, Yu. V.
CLINICAL-EPIDEMIOLOGICAL CHARACTERISTIC OF AN OUT-BREAK OF BOTULISM CONNECTED WITH THE USE OF CANNED FLOUNDER FOR FOOD (Kliniko-Epidemiologicheskaya Kharakteristika Vspyshki Botulizma, Svyazannoi s Upotrebleniem v Pishchu Konservirovannoi Kambaly). 22 Aug 62, 12p. 2 refs. Trans. V-1795.
Order from OTS or SLA $1.60 62-32596

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1962, v. 33, no. 7, p. 92-95.

DESCRIPTORS: Epidemiology, *Botulism, *Food, Preservation, Fishes, Bacterial toxins.

In December, 1959, an outbreak of botulism, connected with the use for food of the local canned flounder, was observed for the first time on the eastern shore of USSR (Soviet Gavan' city). In the organs of two dead and in the lavage water from the intestines of the sick girl, botulin toxin of type A was detected. In order to discover the botulin toxin, the examination of brain tissues, of vomitory masses and the lavage waters of intestines (in intravenous administration) in the experiments of neutralization of white mice is the most effective. (Author)

Cartier, Raymond.
THE DECEMBER BATTLE BETWEEN AMERICAN MEDICINE AND THE TOBACCO MAGNATES. [1962] 18p.
Order from K-H $23.00 K-H 2883

Trans. of le Match du Monde [sic] (France) 1954, 2 Jan, p. 15-17, 20, 22.

DESCRIPTORS: *Tobacco, *Medical research, Smokes.

Davydovskii, I. V.
BIOLOGICAL ASPECTS OF COMPENSATORY ADAPTIVE PROCESSES. 9 Oct 62 [20]p. 4 refs. JPRS: 15621.
Order from OTS or SLA $1.60 62-33298

Trans. of Arkhiv Patologii (USSR) 1962, v. 24, no. 8, p. 7-18.

DESCRIPTORS: *Psychosomatic medicine, *Adaptation (Physiology), Diseases, Animals.

Dibbelt, W.
ON THE BLOOD VESSELS OF TUMORS. [1962] 18p. (Figs. omitted).
Order from SLA $1.60 62-16300

Trans. of [Tübingen U. Pathologisch-Anatomisches Institut]. Arbeiten auf dem Gebiete der Pathologischen Anatomie und Bacteriologie (Germany) 1914, v. 8, p. 114-128.

DESCRIPTORS: *Tumors, *Blood vessels, Blood circulation, *Cancer, Cells (Biology).

Dobrovol'skii, L. A. and Sukhanov, V. A.
CHANGES IN BLOOD SERUM PROTEIN FRACTIONS UNDER THE EFFECT OF TEMPERATURE DROPS AND THEIR HYGIENIC SIGNIFICANCE [AND] THE STATE OF GASTRIC SECRETION IN WORKERS OF HOT SHOPS. 10 Apr 62 [18]p. 27 refs. JPRS: 13403.
Order from OTS or SLA $1.60 62-23838

Trans. of Gigiena Truda i Professional'nye Zabolevaniya (USSR) 1962, v. 6, no. 2, p. 10-26 and 55-57.

DESCRIPTORS: *Blood proteins, Serum, *Temperature, Physical fitness, Labor, *Heat tolerance, Stomach.

Fat'kin, Yu. N.
THE EFFECT OF SNAKE VENOM ON THE PROPERTIES OF MALIGNANT TUMORS. 29 Aug 62[10]p. JPRS: 15028.
Order from OTS or SLA $1.10 62-32570

Trans. from Akademiya Nauk Kazakhskoi SSR, Alma-Ata. Vestnik, 1962, v. 18, no. 5[206].

DESCRIPTORS: Tumors, *Cancer, Growth, *Snake venom, Inhibition, *Immunity.

Based on the experimental data obtained the following conclusions were made: A one-percent solution of dry rattlesnake venom during its action in vitro on a Brown-Pearce carcinoma for 24-25 hours at a temperature of +3 -5° causes a change in the biological properties of tumor cells. After it has been transplanted to the rabbits the Brown-Pearce tumor, which had undergone a change due to the snake venom, develops slowly and, in the majority of animals, it regresses until it completely resolves. After a tumor is resolved, a strong immunity to revaccination of the Brown-Pearce carcinoma is produced in rabbits. These results form a basis for expanding the experiment on further study of the variability of tumor cells under the effect of snake venom. (Author)

Hollo, Ferenc.
DEBATE ON THE TAENIA AND ECHINOCOCCUS PROBLEMS. 10 Jan 62 [6]p. JPRS: 11882.
Order from OTS or SLA $1.10 62-19602

Trans. of Orvosi Hetilap (Hungary) 1961, v. 102, no. 31, p. 1476-1477.

DESCRIPTORS: *Tapeworms, *Echinococcus, *Parasitic infections, Medicine, Veterinary medicine.

Imamaliev, A. S. and Tsoi, G. V.
UNA RARA LOCALIZZAZIONE DI OSTEOCONDROPATIA DELL'ESTREMITÀ STERNALE DELLA CLAVICOLA (A Rare Localization of the Osteocondropatia of the Sternal Extremity of the Clavicle). 5p. CNP-41. (text in Italian).
Order from OTS or ETC $1.40 62-26113

Trans. of Ortopedia, Travmatologiya i Protezirovanie (USSR) 1960, no. 10, p. 65.

DESCRIPTORS: *Bone.

Ioffe, V. I.
RESULTS OF THE STUDY OF THE IMMUNOLOGY OF RHEUMATISM; UNRESOLVED PROBLEMS AND RESEARCH PROBLEMS; CONCLUSIONS AND TABLE OF CONTENTS. 1 Oct 62 [20]p. JPRS: 15500.
Order from OTS or SLA $1.60 62-33329

Trans. of mono. Immunologiya Revmatizma (Immunology of Rheumatism) Leningrad, 1962, p. 325-343 and 355-356.

DESCRIPTORS: *Immunology, *Rheumatism, Pathology *Infections, Sensitivity, Streptococcus, Tonsillitis.

Kasab'yan, S. S.
IL TASSO DI ACIDO ASCORBICO NEI TESSUTI DELLE FERITE IN VIA DI CICATRIZZAZIONE (The Rate of the Ascorbic Acid in the Tissues of the Wounds in the Way of Cicatrization) 6p. 5 refs. CNP-47. (text in Italian).
Order from OTS or ETC $1.55 62-26119

Trans. of Arkhiv Patologii (USSR) 1956, no. 5, p. 91-93.

DESCRIPTORS: *Wounds, Ascorbic acid.

Keutzer, A.
SOME REMARKS ON THE TOPIC "SMOKING AND LUNG CANCER". [1962] 35p.
Order from K-H $43.75 K-H 6445-c

Trans. of Hippokrates (West Germany) 1957, v. 28, no. 3, p. 81-84.

DESCRIPTORS: *Tobacco, Smokes, *Cigarettes, *Cancer, *Lungs.

Khait, V. S.
STUDY OF THE COMBINED ACTION OF DIPHTHERIA AND STAPHYLOCOCCUS TOXINS IN THE ANIMAL ORGANISM (Izuchenie Kombinirovannogo Deistviya Toksinov Difteriinoi Palochki i Stafilokokka v Zhivotnom Organisme). 19 July 62, 9p. 8 refs. Trans. V-1783.
Order from OTS or SLA $1.10 62-32088

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1962, v. 33, no. 5, p. 23-26.

DESCRIPTORS: *Diphtheria, *Staphylococcus, *Bacterial toxins, Reaction (Phychology), Animals, Antitoxins, Temperature.

In the administration to guinea pigs and white mice of a mixture of diphtherial and staphylococcic toxins, mutual intensification of the toxic effect was noted. The increased effect of mixtures of diphtherial and staphylococcic toxins was neutralized by an addition to them of antidiphtherial or antistaphylococcic serum. In keeping the toxins for the course of one hour at 37° no formation was observed of a qualitatively new toxic substance. (Author)

Kolomoitsev, A. P. and Levin, E. G.
CASO RARO DI NUMEROSI CALCOLI DI TIPO IDENTICO NELL'URETERE SINISTRO, NELLA IPOPLASIA DEL RENE SINISTRO (Rare Case of the Calculated Multitude of Identic Type of the left Ureter in the Ipoplasia of the Left Kidney). 7p. CNP-5. (text in Italian).
Order from OTS or ETC $1.55 62-26084

Trans. of Urologiya (USSR) 1959, v. 24, no. 2, p. 62.

DESCRIPTORS: *Urinary tract, Kidneys.

Lalayan, R. L.
UN CASO DI ASSENZA CONGENITA DI STERNO (A Case of Congenital Absence of the Sternum). 4p. CNP-42. (text in Italian).
Order from OTS or ETC $1.40 62-26114

Trans. of Ortopedia, Travmatologiya i Protezirovanie (USSR) 1960, no. 10, p. 66.

DESCRIPTORS: *Bone.

Muranov, A. N. and Zav'yalov, P. V.
TREATMENT OF VARICOSE DILATED VEINS OF THE LOWER EXTREMITIES BY THE ELECTRO-COAGULATION METHOD [AND] PREVENTION OF SCAR CONTRACTURES FOLLOWING BURNS IN CHILDREN. 30 July 62 [10]p. 6 refs. JPRS: 14640.
Order from OTS or SLA $1.10 62-32077

Trans. of Vestnik Khirurgii (USSR) 1962, v. 88, no. 5, p. 72-74 and 116-117.

DESCRIPTORS: Therapy, *Varicose veins, Legs, *Coagulation, *Electric currents, *Adhesions (Medical), Burns, Children.

Muromtsev, S. N. and Borodyuk, N. A.
SIGNIFICANCE OF DOSAGE OF THE DIPHTHERIA TOXOID IN PRIMARY INHALATION IMMUNIZATION AND REIMMUNIZATION IN AN EXPERIMENT WITH ANIMALS (Znachenie Dozirovki Difteriinogo Anatoksina pri Pervichnoi Ingalyatsionnoi Immunizatsii i Reimmunizatsii v Eksperimente na Zhivotnykh). 25 July 62, 11p. 3 refs. Trans. V-1782.
Order from OTS or SLA $1.60 62-32087

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1962, v. 33, no. 5, p. 19-23.

DESCRIPTORS: *Dosage, *Diphtheria, Immunization, *Bacterial toxins, *Inhalation immunization, Animals.

It was shown, in an experiment with animals that the effect of antitoxin formation in the primary inhalation immunization and reimmunization with the diphtheria toxoid is in direct relation to the inhaled dose of the preparation. The titers of the antitoxin in the inhalation reimmunization with the diphtheria toxoid was retained at a high level up to 8-10 months time of observation. (Author)

Nicolau, St. S., Draganescu, N., and Cien Tin Huai.
EXPERIMENTAL INVESTIGATIONS ON THE EFFICACY OF ANTI-ENCEPHALITIC VACCINE (TICK ENCEPHALITIS) PREPARED WITH THE AID OF SILVER IONS. 23 Oct 61 [12]p. JPRS: 10726.
Order from OTS or SLA $1.60 62-19514

Trans. of [Academia Republic Populare Romine. Institutul de Inframicrobiologie]. Studii si Cercetari de Inframicrobiologie [Microbiologie si Parazitologie] 1961, v. 12, no. 1, p. 9-16.

DESCRIPTORS: *Encephalitis, Ticks, *Immunization, *Antigens, Preparation, *Silver, Ions.

Novoselova, R. S.
THE USE OF ELECTROCARDIOGRAMS ON CHILDREN. 12 Oct 62 [25]p. JPRS: 15672.
Order from OTS or SLA $2.60 62-33436

Trans. of mono. Elektrokardiogramma pri Ostrykh Infektsionnykh Zabolevaniyakh u Detei (The Electrocardiogram in Acute Infectious Diseases in Children) Moscow, 1962, p. 7-24, 173-175, 180.

DESCRIPTORS: *Electrocardiography, *Children, Pediatrics, Infections.

Contents:
The age characteristics of the electrocardiogram in healthy children
Conclusions
Table of contents.

Öttel, H.
CANCEROGENIC SUBSTANCES, OCCUPATIONAL CANCER, AND CANCER MORTALITY. [1962] 30p.
Order from K-H $37.50 K-H 9298-e

Trans. of Angew[andte] Chem[ie] (West Germany) 1958, v. 70, no. 17/18, p. 532-539.
Other translations are available from SLA mi$2.70, ph$4.80 as 59-10720 [1958] 24p. and $1.60 as 61-20649 [1961] 17p.

DESCRIPTORS: *Neoplasms, Chemicals, *Benzenes, *Hydrocarbons, Cancer research, *Industrial medicine

For abstract see Technical Translations 1: 391, 1959.

Parnas, J., Mazurek, Z. and others.
INVESTIGATIONS ON DISEASE CENTERS OF ANTROPOZOONOSES IN THE BESKIDES REGION (CARPATHIANS). 4 Oct 62 [55]p. JPRS: 15557.
Order from OTS or SLA $5.60 62-33338

Trans. of unidentified Polish mono. (report) issued by the Witold Chodzkos Institute of Labor Medicine and Rural Hygiene, Ministry of Health and Social Welfare, 42p.

DESCRIPTORS: Epidemiology, *Diseases, Animals, *Rural areas.

Petrov, R. and Kabalov, E.
A VALUABLE DIAGNOSTIC INDICATOR. 8 Aug 61, 4p. JPRS: 9801.
Order from OTS $0.50 61-31581

Trans. from Meditsinskii Rabotnik (USSR) 1961 [v. 24] no. 47(2003).

DESCRIPTORS: *Immunology, Antigens, *Blood proteins, Serum, Diagnosis, Chemical indicators.

Ponomareva, E. D.
CHANGES IN BLOOD PROTEIN IN ACUTE LEUKEMIA. 3 May 62 [15]p. 19 refs. JPRS: 13645.
Order from OTS or SLA $1.60 62-24380

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1962, v. 17, no. 2, p. 82-89.

DESCRIPTORS: *Blood proteins, Pathology, *Leukemia, Albumins, Fibrinogen, *Electrophoresis.

Schuttmann, W.
PROPHYLASIX: YES OR NO, THOUGHTS ON THE TOBACCO QUESTION. [1962] 10p.
Order from K-H $12.50 K-H 8835-c

Trans. of Deut[sche] Gesundhe[it]sw[esen] (East Germany) 1958, v. 13, no. 27, p. 855-859.

DESCRIPTORS: *Tobacco, Pathology

Sergeev, V. M. and Pisarevskii, A. A.
THERAPY OF TERMINAL STATES. 12 Oct 62 [13]p. JPRS: 15683.
Order from OTS or SLA $1.60 62-33425

Trans. of Fel'dsher i Akusherka (USSR) 1962 [v. 27] no. 8, p. 41-48.

DESCRIPTORS: *Clinical death, Therapy, *Traumatic shock, *Hemorrhage, Inhibition, Anoxia.

The report contains information regarding shock, collapse, acute hemorrhage, and asphyxia, i. e., the grave and acute pathological precesses which threaten death more frequently and more rapidly than in other conditions. (Author)

Shapiro, V. M. and Zotikov, E. A.
REANIMATOLOGY AS A NEW CHAPTER IN PATHOLOGICAL PHYSIOLOGY (ALL-UNION CONFERENCE ON THE PATHOLOGY AND THERAPY OF TERMINAL STATES (NO. 2))[AND] ALL-UNION CONFERENCE ON HOMOTRANSPLANTATION OF ORGANS AND TISSUES (NO. 2). 15 Oct 62 [14]p. JPRS: 15695.
Order from OTS or SLA $1.60 62-33426

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1962, v. 6, no. 4, p. 87-91.

DESCRIPTORS: Conferences, *Clinical death, Physiology, Pathology, Countermeasures, *Transplantation, *Tissues (Biology), Eye, Bone, Blood vessels.

Soimi, A. and Borgo, M.
ON THE IMPORTANCE OF THE GENOTYPE IN THE ETIOPATHOGENESIS OF MALIGNANT NEOPLASIAS OF THE LARYNX. [1962] 15p.
Order from K-H $18.75 K-H 11627-f

Trans. of Tumori (Italy) 1961, v. 47, p. 326-337.

DESCRIPTORS: *Genetics, Etiology, *Cancer, Neoplasms, *Larynx.

Trofimov, G. K.
EFFECTS OF AEROIONS ON EXPERIMENTAL BRONCHOSPASM OF ISOLATED LUNG. 2 Oct 62 [10]p. 7 refs. JPRS: 15535.
Order from OTS or SLA $1.10 62-33334

Trans. of Akademiya Nauk Kazakhskoi SSR, Alma Ata. Izvestiya. [Seriya Meditsiny i Fiziologii] 1962, no. 2(18) p. 86-89.

DESCRIPTORS: *Atmospheric electricity, Particles, *Spasms, *Lungs, Edema, Therapy, Anaphylactic shock, Sensitivity, Antigens.

The application both of negative and of positive aeroions reduces the frequency and the strength of bronchospasm of isolated lungs. Continuing experiments make it possible to assume that, under the influence of aeroions of different polarities on the organism of a rabbit, the sensitivity of the smooth muscles of the bronchi to the influence of antigen is reduced. (Author)

Vasilenko, V. Kh., Beer, V. V. and others.
THE PROBLEM OF THE PROTECTIVE FUNCTIONS OF THE ORGANISM [AND] THE SIGNIFICANCE OF IMMUNOHEMATOLOGY IN MODERN MEDICINE. 7 Sep 62 [24]p. 32 refs. JPRS: 15152.
Order from OTS or SLA $2.60 62-32887

Trans. of Klinicheskaya Meditsina (USSR) 1962 [v. 40] no. 5, p. 3-18.

DESCRIPTORS: *Adaptation (Physiology), Body, *Diseases, *Inhibition, Antigens, *Cells, (Biology), Tissues (Biology) Immunology, *Hematology, Antibodies, Hemagglutinins, Pathology.

Yatsentyuk, M. N. and Katonin, V. A.
EVALUATION OF THE EFFECTIVENESS OF THE USE OF PLASMA-SUBSTITUTE BK-8 WITH THE AIM OF PARENTERAL PROTEIN FEEDING [AND] THE USE OF VINYL CHLORIDE FOR RECONSTRUCTING TENDON SHEATHS. 27 June 62 [12]p. 18 refs. JPRS: 14298.
Order from OTS or SLA $1.60 62-25539

Trans. of Vestnik Khirurgii (USSR) 1962, v. 88, no. 3, p. 73-74 and 78-80.

DESCRIPTORS: *Plasma substitutes, Plasma transfusions, Nutrition, Proteins, *Peptic ulcers, *Vinyl chlorides, Prosthetics, *Plastic surgery, *Tendons.

Pharmacology and Toxicology

MEDICAL INDUSTRY USSR, 1962, VOL. 16, NO. 7: [SELECTED] ARTICLES. 17 Oct 62 [59]p. 38 refs. JPRS: 15759.
Order from OTS or SLA $5.60 62-33455

Trans. of Meditsinskaya Promyshlennost' SSSR, 1962, v. 16, no. 7, p. 3-9, 34-39, 55-56, 58-62.

DESCRIPTORS: *Drugs, Medicine, Antibiotics, Production, Chemotherapeutic agents, Purification, Gamma rays, Infectious diseases, Therapy, Artificial kidney.

Contents:
Fuller utilization of reserves in the production of antibiotics, by S. I. Maimind
New antibiotics, by T. A. Uspenskaya
Radiation sterilization of antiobiotic Preparations.

Rept. 6: Radiation sterilization of antibiotic ointments and ointment bases, by V. I. Pochapinskii The new antibiotic "monomycin", by L. E. Gol'dberg Physicotechnical principles of the "artificial kidney" apparatus. Rept. II, pt. III: Comparison of obtained results with experimental data, by E. A. Vainrib.

SYMPOSIUM ON THE NEW ANABOLIZING STEROIDS, MILAN, 5 JUNE 60. [1962] 5p.
Order from SLA $1.10 62-10280

Trans. of unidentified mono. pub. by Minerva Medica, n.p., n.d.

DESCRIPTORS: CONFERENCES, *Drugs, *Diânabol, *Androgens, *Testosterone, Steroids, Pharmacology.

Guagliano, G. and Stoppani, L.
FUNCTIONAL MODIFICATIONS OF THE ARTERIOLE-CAPILLARY CIRCULATION OF THE LIMBS PRODUCED BY TOBACCO SMOKE ALONE AND IN UNION WITH VASODILATORY DRUGS. [1962] 11p.
Order from K-H $13.75 K-H 8809-a

Trans. of Minerva Cardioangiol[ogica] (Italy) 1957, v. 5, no. 2, p. 597-600.

DESCRIPTORS: *Blood circulation, *Arteries, Capillaries, Arms, Legs, *Tobacco, Smokes, Cigarettes, Nicotine, *Vasomotor drugs.

Janke, J.
THE BEHAVIOR OF ATP, ADP, AND OTHER PHOSPHORIC ACID ESTERS OF THE MUSCLE UNDER THE ACTION OF DEPOLARIZING CONTRACTURE SUBSTANCES. [1962] 5p.
Order from K-H $6.25 K-H 3808-a

Trans. of Naunyn-Schmiedeberg's Archiv für Exp[erimentelle] Pat[hologie] und Pharmakol[ogie] (West Germany) 1955, v. 225, p. 160-162.

DESCRIPTORS: *Adenosine phosphates, Esters, *Muscles, *Stimulation, Drugs.

Komarova, L. G.
THE EFFECT OF BUTADIONE AND ADRENOCORTICOTROPIC HORMONE ON EXPERIMENTAL ATHEROSCLEROSIS (Vliyanie Butadiona i Adrenokortikotropnogo Gormona na Techenie Eksperimental'nogo Ateroskleroza). 5 Apr 61, 10p. 13 refs. JPRS: 7593.
Order from OTS $0.50 61-21622

Trans. from *Farmakologiya i Toksikologiya (USSR) 1960, v. 23, no. 5.

DESCRIPTORS: Drugs, *ACTH, *Pyrazoles, Cholesterol, Phospholipids, Therapy, *Arteriosclerosis, Pharmacology, *Hormones.

ACTH reduces blood cholesterol levels, increases the blood lecithin level, and augments the lecithin-cholesterol ratio. Butadione in small doses does not alter the blood cholesterol level but in large doses diminishes it. The blood lecithin level is altered slightly. ACTH exerts an inhibitory effect on the course of experimental atherosclerosis. In contrast to ACTH, butadione does not exert an effect on the formation of atheromata. (Author)

Mednikyan, G. A.
COMPARATIVE PHARMACOLOG OF SOME NICOTINE DERIVATIVES ([-AND '-AMINONICOTINE, ACETYL-[- AND ACETYL-(-AMINONICOTINE). [1962] 50p.
Order from K-H $62.50 K-H 3289-b

Trans. of Arkhiv Biologicheskikh Nauk (USSR) 1936, v. 41, no. 2, p. 113-136.

DESCRIPTORS: Pharmacology, *Nicotine, *Amines, *Acetyl radicals.

Moulin, G., Jaques, R., and Lieux, J. M.
INFLUENCE OF RESERPINE ON THE GROWTH OF RATS (Influence de la Réserpine sur la Croissance du Rat). May 62, 4p. 3 refs.
Order from SLA $1.10 62-16904

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. C[omptes] R[endus des Seances] (France) 1961, v. 155 [no. 4] p. 803-805.

DESCRIPTORS: *Reserpine, Pharmacology, Growth, Rats, *Body weight.

Navrotskii, V. K. and Dubashinskaya, S. M.
THE EFFECT OF INDUSTRIAL POISONS ON ANIMAL ORGANISMS UNDER HIGH TEMPERATURE AIR CONDITIONS. 21 Sep 62 [13]p. JPRS: 15382.
Order from OTS or SLA $1.60 62-33141

Trans. of Gigiena i Sanitariya (USSR) [1961, v. 26] no. 8, p. 22-28.

DESCRIPTORS: Industrial medicine, *Poisons, Temperature, Toxicity, *Benzenes, Carbon compounds, Monoxides, Lungs, Ventilation.

Under the conditions of high temperature the effect of industrial poisons on the organism of animals changes only when the thermoregulation is impaired, i.e. the functional condition of the nervous system and the reactivity of the organism change abruptly. A slight acceleration of the effects of poisons is noted at increased air temperature even in the absence of impairment of thermoregulation, which apparently may be explained by an increase in the sorption of poison as a result of an increase in lung ventillation and in blood circulation. (Author)

Piliego, Mario and Soldi, Alberto.
PROCESS FOR THE PURIFICATION OF MOIST SMOKES, AND PARTICULARLY TOBACCO SMOKE. [1962] 3p.
Order from K-H $3.75 K-H 8003-e

Trans. of Italian patent 514,583, cl. XXV [1956].

DESCRIPTORS: Purification, *Smokes, *Tobacco, Cigarettes.

Rakov, A. F.
IMPROVING THE METHOD OF FILLING AMPOULES WITH INJECTION PREPARATIONS AT THE TALLIN CHEMICALS AND PHARMACEUTICALS PLANT. 11 Sep 62 [8]p. JPRS: 15224.
Order from OTS or SLA $1.10 62-33005

Trans. of Meditsinskaya Promyshlennost' SSSR, 1962 [v. 16] no. 6, p. 34-37.

DESCRIPTORS: *Drugs, Packaging, *Containers, *Ampuls.

Sadekov, Boris.
A RIVAL OF GINSENG. 4 June 62 [5]p.
FTD-TT-62-556.
Order from OTS or SLA $1.10 62-32580

Unedited rough draft trans. of Sovetskaya Latviya (USSR) 1962, 26 Jan, p. 4.

DESCRIPTORS: *Drugs, *Plants, Inhibition, Blood pressure, Blood sugar, *Radiation sickness.

Preparations made from the root of Eleutherococcus are not toxic, reduce the blood pressure and the level of sugar in the blood, act as a stimulant, and increase the resistance of the organism. Convincing data were obtained from tests on white mice on the prophylactic and therapeutic powers of Eleutherococcus in acute radiation sickness. (Author)

Stoyanovskii, D. N.
MECHANISM OF THE TOXIC ACTION OF NICOTINE [O Mekhanizme Toksicheskogo Deistviya Nikotina]. [1962] 9p.
Order from K-H $11.25 K-H 5367 b

Trans. of Farmakologiya i Toksikologiya (USSR) 1955, v. 18 [no. 1] p. 23-26.
Another trans. is available from ATS as RJ-297.

DESCRIPTORS: *Nicotine, Toxicity.

Radiobiology

Aglintsev, K. K.
ON THE FUNCTION OF REGENERATION OF ORGANISMS IN THE PRESENCE OF RADIATION (O Funktsii Vosstanovleniya pri Obluchenii Organizmov). [1961] [10]p.
Order from OTS or SLA $1.10 61-28225

Trans. of Biofizika (USSR) 1960, v. 5, no. 6, p. 740-744.

DESCRIPTORS: *Regeneration, Radiation effects, Dosage, *Radiation injuries, Mathematical analyses.

Astaurov, B. L.
IONIZING RADIATION AND HEREDITY (GENETIC THEORY OF RADIATION SICKNESS). 12 Oct 62 [24]p. JPRS: 15676.
Order from OTS or SLA $2.60 62-33428

Trans. of Priroda (USSR) 1962 [v. 51] no. 4, p. 55-67.

DESCRIPTORS: Ionization, *Genetics, *Radiation sickness, *Nuclei (Biology), *Radiobiology.

An attempt is made to develop in somewhat simplified and very general form a concept of the causes of the heterogeneous manifestations of the biological effect of irradiation, sometimes as dissimilar as radiation sickness and mutational effect, and usually examined in isolation. The essence of this view consists of this: that the general prime cause of the many biologically important consequences of radiation is the destruction of vitally necessary nuclear structures and the disturbance of the subsequent work of hereditary elements in the processes of constructive biosynthesis. From this point of view at the base of radiation sickness there lie chiefly those same changes in nuclear nucleoproteides as are at the root of the mutational effect of radiation, and the difference in the biological effect depends on the peculiarities of those living systems in which these changes are produced. The general radiobiological conception which is elaborated here can therefore be called the genetic theory of radiation sickness. (Author)

Buchner, W.
CONTINUOUS MEASUREMENT OF THE RADIOACTIVE AEROSOL CONTENT OF THE AIR [Kontinuerliche Messung des Radioaktiven Aerosolgehaltes der Luft]. 29 July 60 [13]p. (8 figs. omitted). USASIA: SC-140/60; JPRS: R-964-D.
Order from OTS or SLA $1.60 60-31446

Reprint of Atompraxis (West Germany) 1957, v. 3, no. 10 [p. 382-388].

DESCRIPTORS: Measurement, Dosage, *Radioactivity, *Aerosols, Air, Radioactive isotopes, Instrumentation.

Catsch, A[lexander] and Melchinger, H.
THE EFFECT OF CHELATING AGENTS UPON THE BIOLOGIC DISPOSITION OF RADIOSTRONTIUM. Pt. 5 of [Investigations of the] Therapeutic Possibilities [in Poisoning due to] Radioactive Fission Products. [1961] 14p. 35 refs.
Order from RIS $35.00 RIS G-266

Trans. of Strahlentherapie (West Germany) 1959, v. 108, p. 63-72.

DESCRIPTORS: *Chelate compounds, *Radiation sickness, Therapy, Radioactive isotopes, *Cerium mammals, Deposits, Bone, Liver, Kidneys, Excretion.

See also RIS G-265)

Gorizontov, P. D. and Moroz, B.B.
EFFECT OF IONIZING RADIATION ON THE HEART. 24 Oct 62 [14]p. 55 refs. JPRS: 15872.
Order from OTS or SLA $1.60 62-33597

Trans. of Kardiologiya (USSR) 1962, v. 2, no. 4, p. 3-9.

DESCRIPTORS: Ionization, Radiation effects, *Heart, Resistance, Radiobiology, *Radiation sickness, Cardiac muscle.

The hypothesis of radioresistance of the heart must be set aside because it lacks sufficient theoretical grounds, and may be harmful in a practical relationship. Analysis of the course of radiation sickness in persons subjected to the actionof radiation as a result of accidents enabled Gempel'man to propose the special concept of "muscular radiation weakness," which he appraises as one of the essential symptoms of radiation affection. The pathogenesis of disruption of heart activity under the effect of ionizing radiation has a complex origin and is connected with various factors. (Author)

Khlystova, I. P.
THE EFFECT OF AN ULTRAHIGH FREQUENCY ELECTRIC FIELD ON CHANGE OF REACTIVITY OF CHILDREN IN TREATING SEPSIS IN THE NEWBORN. 14 May 62 [10]p. 14 refs. JPRS: 13735.
Order from OTS or SLA $1.10 62-24743

Trans. of Voprosy Okhrany Materinstva i Detstva (USSR) 1962, v. 7, no. 3, p. 47-52.

DESCRIPTORS: *Electric fields, Therapy, *Infections, *Infants, *Ultrahigh frequency, Dosage, *Ultraviolet radiation, Skin, Sensitivity.

The acute period of development of sepsis is characterized by two different types of formation of ultraviolet erythema. The first type is characterized by a shortened latent period (2-4 times shorter than normal) and by an expressive character of erythema. This type of reaction characterizes the period of stimulation of the central nervous system. The second type of reaction, which is observed in infants with suppression of the nervous system, is characterized by prolongation of the latent period and higher value of threshold erythema or with complete absence of the latter. (2) In infants with sepsis there is lability of the light sensitivity of the skin. For a short time (2-5 days), there are marked changes both in the magnitude of the biodose and in the latent period. (3) A single application of a UHF electrical field over the area of the solar plexus causes particularly marked changes in the duration of the latent period in one or another direction depending on the original level. (4) Under the influence of the course of UHF treatment, in the majority of infants the duration of the latent period changes in one or another direction depending on the original level. (5) The latent period of erythema is one of the more sensitive indices in evaluating the influence of a UHF electrical field on the reactivity of infants with sepsis. (Author)

Laites, F. L. and Shurikhina, L. A.
EFFECT ON MICROWAVES ON THE HORMONAL ACTIVITY OF THE ADRENAL CORTEX. 27 Apr 62 [8]p. 19 refs. FTD-TT-62-277.
Order from OTS or SLA $1.10 62-25829

Unedited rough draft trans. of #Byulleten' Eksperimental'noi Biologii i Meditsiny (USSR) 1961, v. 52, no. 12, p. 47-50.

DESCRIPTORS: *Microwaves, *Hormones, Secretion, *Adrenal glands, Corticosteroids, Ascorbic acid, *Radiation effects.

Mosolov, I. V., Lapshina, A. N., and Panova, A. V.
MOVEMENT OF RADIOACTIVE CALCIUM Ca^{45} INTO THE PLANT WHEN IT IS INTRODUCED EXTRARADICALLY. [1962] 3p.
Order from K-H $3.75 K-H 5604-a

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1954, v. 98 [no. 3] p. 495-496.

DESCRIPTORS: *Radioactive isotopes, *Calcium, *Plants, Metabolism, Distribution.

Telitchenko, M. M.
THE ROLE OF METABOLISM OF FISH IN THE ACCUMULATION OF RADIOISOTOPES BY THEM. 24 Oct 62 [10]p. JPRS: 15871.
Order from OTS or SLA $1.10 62-33593

Trans. of Nauchnye Doklady Vysshei Shkoly. Biologicheskie Nauki (USSR) 1962, no. 3, p. 90-93.

DESCRIPTORS: *Metabolism, *Fishes, *Absorption, *Radioactive isotopes, Temperature, Light, Nutrition.

These experiments indicate that the intensity of the accumulation of radioisotopes by fish depends on factors which stimulate metabolic processes. (Author)

Zaitseva, G. N. and Belozerskii, A. N.
THE EFFECT OF X-RAY ON THE METABOLISM OF FREE NUCLEOTIDES AND ON THE ENZYMES OF NUCLEIC METABOLISM IN AZOTOBACTER AGILE 21-D. 11 Sep 62 [12]p. 27 refs. JPRS: 15220.
Order from OTS or SLA $1.60 62-33008

Trans. of #Mikrobiologiya (USSR) 1962, v. 31, no. 2, p. 209-215.

DESCRIPTORS: *X-rays, *Radiation effects, Metabolism, *Nucleotides, *Nuclei (Biology), *Azotobacter.

The action of X-rays produces a quantitative accumulation of free mononucleotides in Azotobacter agile 22-D chiefly at the expense of nucleoside monophosphates. The amount of nucleociddi-and especially triphosphates in irradiated cells of azotobacter sharply decreases. X-irradiation leads to the inhibition of oxidizing phosphorylation, and to a strong suppression of the activity of the nucleoside phosphokinases, which bring about transphosphorilization (sic) among the mononucleotides of the azotobacter. Under the influence of radiation a diminution in the activity of polynucleotide

phosphorylase and the activation of ribonucleases is observed, as a result of which there appears a substantial lessening of the quantity of RNA in the studied cells of Az. agile 22-D. The strengthening of the activity of DNA-ase under the influence of roentgen radiation is accompanied by a sharp decrease in the quantitative content of DNA in Az. agile 22-D. Thus, under roentgen irradiation the action of opposing factors, namely: the inhibiting of nucleoside phosphokinases and of enzymes which synthesize nucleonic acids, on the one hand, and also the activation of nucleases -- on the other, produces a slowing or cessation of synthesis "de novo" and a degradation of the nucleonic acids already existing in the cell. Besides, X-irradiation produces also a direct influence on high-molecular polynucleotides. (Author)

Zoology

ACTIVITIES OF THE MOSCOW SOCIETY OF NATURALISTS IN THE ARAL SEA AREA. 18 Oct 62 [23]p. 5 refs. JPRS: 15768.
Order from OTS or SLA $2.60 62-33454

Trans. of Moskovskoe Obshchestvo Ispytatelei Prirody. Byulleten'. Otdel Biologicheskii (USSR) 1960, v. [35]65, no. 5, p. 101-102 and 137-140.

DESCRIPTORS: Aral Sea, *Desert animals, Ecology, *Rodents, Distribution, Diet, Plants, *Plague, Mammals, *Mites, Trombiculidae.

Contents:
Distribution of the small suslik (Citellus Pygmaeus Pall.) in the northeast Aral Area, by G. N. Gornoataev and others
Effects of the burrowing of susliks on desert vegetation, by S. N. Varchavskii and E. V. Rotshil'd
Plague enootic characteristics in the northern Ustyurt and adjoining areas, by M. N. Shilov
Desert vegetation in the diet of large gerbils, by E. V. Rotshil'd
Distribution of certain predatory mammals' burrows and their connection with large gerbil settlements, by E. S. Shilova
Nocturnal activity of large gerbils, by S. N. Marin and E. V. Rotshil'd
Some data on the fauna of trombiculid mites in the northern Aral Area, by M. G. Komardina.

Gusev, V. M.
BIRDS AS A FACTOR CONTRIBUTING TO THE EXPANSION OF THE RANGE LIMITS OF CERTAIN SPECIES OF ECTOPARASITES. 15 Oct 62 [10]p. 26 refs. JPRS: 15701.
Order from OTS or SLA $1.10 62-33422

Trans. of Zoologicheskii Zhurnal (USSR) 1962, v. 41, no. 7, p. 1061-1066.

DESCRIPTORS: *Birds, *Parasites, Ecology, Distribution, Mites, Fleas, Climatic factors.

Orlov, O. Yu. and Bygov, A. L.
SOVIET STUDY ON THE EYESIGHT OF SQUIDS. 15 May 62 [12]p. JPRS: 13756.
Order from OTS or SLA $1.60 62-24729

Trans. of Priroda (USSR) 1962, v. 51, no. 3, p. 115-118.

DESCRIPTORS: *Vision, *Squids, Eye, Dark adaptation, Light adaptation.

Perfil'ev, P. P.
ANATOMY OF MOSQUITO LARVAE, tr. by P. V. DePorte. 10 Aug 61 [25]p. 12 refs. NIH no. 8-6-61.
Order from OTS or SLA $2.60 61-27796

Trans. of a reprint from [Za Sotsialisticheskoe Zdravokhraenenie Uzbekistana (USSR) 1928, no. 9/10.

DESCRIPTORS: *Anatomy, *Mosquito, Morphology, Insects.

CHEMISTRY

Theiler, Carl R.
MEN AND MOLECULES: WHAT CHEMISTRY IS AND WHAT IT DOES, tr. by E. Osers. 1962, 226p.
Order from Dodd, Mead & Co., New York $5.00

Trans. of mono. Männer und Molekül, Zurich, n.d.

DESCRIPTORS: *History, Philosophy, Combustion, Atoms, Molecules, *Scientific organizations, *Dyes, Coal tar, Acids, *Sulfuric acid, *Alkali metals, *Nitrogen, *Electrochemistry, *Drugs, Sulfonamides, Penicillin, Tranquilizing drugs, Vitamins, *Insecticides, DDT, *Deodorants, *Synthetic fibers, Rayon fibers, Acetates, *Cellulose chemistry, *Plastics, Polymerization, Vinyl radicals, Thermosetting resins, Vinyl chlorides, Styrines, Acrylic resins, *Synthetic rubber, *Aluminum, *Glass, *Chemical industry, Fuels, Organic compounds, Agriculture, Detergents, Aerosols, *Atomic structure.

Analytical Chemistry

DEVICE FOR THE MOISTENING OF TOBACCO. [1962] 3p.
Order from K-H $3.75 K-H 5550-b

Trans. of German patent 538,422 [1931].

DESCRIPTORS: *Tobacco, *Moisture.

PROCESS FOR OBTAINING STEAM-VOLATILE ALKALOIDS. [1962] 3p.
Order from K-H $3.75 K-H 3964-f

Trans. of German patent 516,283 [1930].

DESCRIPTORS: *Separation, *Alkaloids, Steam, Evaporation.

PROCESS FOR REMOVING NICOTINE FROM TOBACCO. [1962] 4p.
Order from K-H $5.00 K-H 3931

Trans. of German patent 520, 438 [1931].

DESCRIPTORS: *Tobacco, *Nicotine, Processing.

PROCESS FOR THE ARTIFICIAL FERMENTATION AND DENICOTINIZATION OF TOBACCO. [1962] 2p.
Order from K-H $2.50 K-H 4089-b

Trans. of German patent 527, 361 [1931].

DESCRIPTORS: *Fermentation, *Tobacco, Nicotine, Processing, Separation.

PROCESS FOR THE IMPROVEMENT OF TOBACCO BY MEANS OF ULTRASONIC WAVES. [1962] 3p.
Order from K-H $3.75 K-H 3417-d

Trans. of German patent 825, 229 [1951].

DESCRIPTORS: *Tobacco, Cigarettes, *Ultrasonics, Processing.

UNIT FOR REMOVAL OF BITTERNESS FROM TOBACCO. [1962] 4p.
Order from K-H $5.00 K-H 3677-b

Trans. of German patent 826, 869 [1951].

DESCRIPTORS: *Taste, *Tobacco, Smokes, Cigarettes, Separation.

Demchenko, P. A.
DETERMINATION OF THE EFFICIENCY OF DETERGENTS BY COLLOIDAL CHEMICAL METHODS [Opredelenie Effektivnosti Moyushchikh Veshchestv Kolloidno-Khimicheskimi Metodami]. [1962] 5p.
Order from ATS $8.25 ATS-22P63R

Trans. of Maslob[oino]-Zhir[ovaya] Prom[yshlennost'] (USSR) 1959, v. 25, no. 7, p. 36-39.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 61-15391, RTS-1645, Jan 61 [8]p.

DESCRIPTORS: *Detergents, Determination, Chemical analysis, *Colloids.

[Dikker, G. L.]
THE CONCENTRATION AND SIZES OF TOBACCO SMOKE PARTICLES: [REVIEW OF ARTICLE BY G. LANGER AND M. FISHER]. [1962] 4p.
Order from K-H $5.00 K-H 9584

Trans. of Tabak (USSR) 1957, v. 18 [no. 1] p. 61-63 [(original pub. in A. M. A. Archives of Industrial Health (U. S.) 1956, v. 13, no. 4 p. 372-378)].
Another trans. is available from SLA $1.10 as 61-10895 [1961] 7p.

DESCRIPTORS: *Tobacco, *Smokes, *Cigarettes, Particles, Measurement.

Golaz, P., Girardet, A., and Regamey, R.
CONSIDERATIONS ON THE RECOVERY OF THE CONSTITUENTS OF CIGARET SMOKE. [1962] 29p.
Order from K-H $36.25 K-H 9396-a

Trans. of Mitt[eilungen] aus dem Gebiete der Lebensmitteluntersuchung[en] und Hygiene (Switzerland) 1959, v. 50, p. 18-39.

DESCRIPTORS: Recovery, *Tobacco, *Smokes, Cigarettes, *Nicotine.

Grinman, I. G. and Nurgalieva, Kh.
ACCURACY AND RELIABILITY IN AUTOMATIC CHEMICAL PROCESS CONTROL. 4 Jan 62 [11]p. 2 refs. JPRS: 11692.
Order from OTS or SLA $1.60 62-15219

Trans. of [Akadamiya Nauk] Kazakh[skoi] SSR, Alma Ata. [Izvestiya. Seriya Khimicheskaya] 1961 [v. 6] no. 10, p. 23-31.

DESCRIPTORS: *Chemical analysis, Automatic, Reliability, Errors.

Honda, Masatake.
SEPARATION OF IONS USING THE DIFFERENCE IN ADSORBABILITY DUE TO ELECTRIC CHARGE (MUTUAL SEPARATION OF Li^{+}, Be^{2+} AND Al^{3+}). Rept. 8 on Ion Exchange Resins Used for Analysis. [1959] [5]p. (experimental sect. footnotes omitted). F-TS-9976.
Order from OTS or SLA $1.10 60-13120

Trans. of Nihon Kagaku Zasshi (Japan) 1950, v. 71, no. 2, p. 118-120.

DESCRIPTORS: *Ion exchange resins, Chemical analysis, *Lithium, *Berium, *Aluminum, Ions, Separation.

[Kageyama, I., Yasumura, J., and Sato, M.].
EXTRACTION OF ACTIVE PRINCIPLES FROM PYRETHRUM, DERRIS ROOT, TOBACCO, ETC. [1962] 5p.
Order from K-H $6.25 K-H 3166-e

Trans. of published Japanese patent [27]-3649, 1952, by [Douwe Egberts].
Another trans. is available in Dutch from OTS or ETC $1.55 as 61-17614, MTWL-905, 7p.

DESCRIPTORS: *Plants, *Solutions, *Liquefied gases, Hydrocarbons, Chlorine compounds, Fluorides, *Tobacco.

Karrer, P., Simon, H., and Zbinden, E.
OPTICALLY ACTIVE -PHYLLOQUINONE (VITAMIN K_1). [1962] 5p.
Order from K-H $6.25 K-H 5629-f

Trans. of Helvetica Chimica Acta (Switzerland) 1944, v. 27, p. 317-319.

DESCRIPTORS: *Vitamin K, *Quinones, Stereochemistry, Optics.

Korshun, M. O. and Gel'man, N. E.
APPARATUS FOR SULFUR MICRODETERMINATION: COMMUNICATION 4 (Apparatura dlya Mikroopredeleniya Sery. Soobshchenie 4). [1962] [9]p. (foreign text included) 3 refs.
Order from OTS orSLA $1.10 62-10579

Trans. of mono. Obmen Opytom i Tekhnika Laboratornoi Raboty (Exchange for Experiments and Technical Laboratory Work) n.p., n.d., p. 754-756.

DESCRIPTORS: *Sulfur, Microanalysis, *Laboratory equipment, Determination.

Maruta, Senjiro and Suzuki, Yoshihito.
ANALYSIS OF ALIPHATIC ALDEHYDES. Rept. 5 of Studies on Carbonyl Compounds. Oct 62, 18p. 18 refs.
Order from SA $21.00 SA Code-G719

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 12, p. 2129-2131.

DESCRIPTORS: *Aliphatic compounds, *Aldehydes, Nitro radicals, Phenols, Hydrazines, Paper chromatography, Ultraviolet spectroscopy.

Müller, Rudolf.
THE OXYGEN INDEX AS AN INDICATOR FOR THE TERMINATION OF THE TECHNICAL PROCESS OF FERMENTATION. [1962] 13p.
Order from K-H $16.25 K-H 9019-c

Trans. of Institut für Tabakforschung. Berichte (East Germany) [1958] v. 5, no. 1, p. 145-154.

DESCRIPTORS: *Oxygen, Chemical indicators, *Fermentation.

Neeb, Rolf.
ANODIC AMALGAM VOLTAMMETRY. III. COMPARATIVE STUDIES ON THE APPLICATION OF AMALGAMATED PLATINUM ELECTRODES AND STATIONARY MERCURY ELECTRODES. [1962] 15p. 23 refs.
Order from SLA $1.60 62-16687

Trans. of Zeit[schrift für] Anal[ytische] Chem[ie] (West Germany) 1961, v. 180, no. 3, p. 161-168.

DESCRIPTORS: *Mercury electrodes, *Platinum electrodes, *Mercury alloys, *Voltage, Electrodes, Sensitivity, *Voltmeters, *Anodes

A stationary mercury electrode and an amalgamated platinum electrode suitable for anodic voltammetry are described in detail. The electrodes are compared with respect to their sensitivity and the reproducibility of measurements with them, especially at different rates of voltage change. (Author)

Portnov, A. I., Grizo, V. A., and Zakin, A. I.
QUANTITATIVE DETERMINATION OF BERYLLIUM BY MEANS OF ARSONIC ACID, tr. by F. E. Wallwork. Dec 61 [7]p. 1 ref. AWRE/Trans/25; [DSIR] NLL M. 4783.
Order from OTS or SLA $1.10 62-25565

Trans. of Zavodskaya Laboratoriya (USSR) 1953, v. 19, no. 6, p. 660-661.

DESCRIPTORS: *Beryllium, Quantitative analysis, *Arsonic acids, Determination, Separation, Chemical engineering.

It is established that the monosodium salts of arsanilic, parahydroxyphenylarsonic and parahydroxymetanitrophenylarsonic acids form precipitates of the corresponding arsonates with beryllium salts. Beryllium can be quantitatively determined with sufficient accuracy by the bromometric determination of arsonates. Of the three arsonic acids studied, parahydroxymetanitrophenylarsonic acid possesses the best analytical qualities. It is demonstrated that beryllium and aluminium can be separated in the presence of hydroxy acids when there is a specific quantitative ratio between the two metals. The results of experiments on the quantitative determination of beryllium in the presence of a number of other cations indicate that beryllium can be separated practically completely from calcium, magnesium, strontium and barium even if their concentration is ten times that of the beryllium. (Author)

Wegner, E. [rich].
SEPARATION AND DETECTION OF NICOTINE, NORNICOTINE, AND ANABASINE BY PAPER CHROMATOGRAPHY. [1962] 3p.
Order from K-H $3.75 K-H 3160-o

Trans. of die Naturwissenschaften (West Germany) 1953, v. 40, no. 22, p. 580-581.

DESCRIPTORS: Separation, *Nicotine, *Alkaloids, *Paper chromatography, Piperidines.

Wegner, Erich.
SEPARATION AND DETECTION OF NICOTINE, NORNICOTINE, AND ANABASINE ON BUFFERED PAPER CHROMATOGRAMS. [1962] 5p.
Order from K-H $6.25 K-H 3523-b

Trans. of Tabak-Forschung (West Germany) 1954, v. 11, p. 4.

DESCRIPTORS: Separation, *Nicotine, *Alkaloids, *Paper chromatography, *Piperidines.

Yoshikawa, Mitsuyoshi.
ENZYMOLYTIC PRODUCTS OF ALGINIC ACID, tr. by Mrs. H. J. Kondo. [1962] 3p. 8 refs. NRCC Technical trans. 1041.
Order from NRCC $0.50 NRCC C-4090

Trans. of Kagaku (Japan) 1961, v. 31, p. 552.

DESCRIPTORS: Decomposition, Enzymes, *Alginic acid, Saccharides, *Uronic acids.

The trisaccharide, which is the main product in the enzymolytic decomposition of alginic acid, contains an equal amount of mannuronic acid and L-guluronic acid. This refutes the past theory that alginic acid is a polymer composed only of β-D-mannuronic acid, and shows clearly that guluronic acid is contained in the alginic acid in a chemical combination.

Organic Chemistry

COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY: [SELECTED] TRANSLATIONS NO. 11. 23 Oct 62 [33]p. JPRS: 15846.
Order from OTS or SLA $3.60 62-33605

Trans. of Hua Hsüeh T'ung Pao (Chinese People's Republic) 1962, no. 2, table of contents, p. 49-54; no. 3, p. 52-53; no. 4, table of contents, p. 49-52.

DESCRIPTORS: China, *Streptomycins, *Ion exchange, *Corrosion inhibition, Barium compounds, Nitrates, Catalysis, *Acrylonitriles, Hydrogenation, *Acetylenes, *Ethylenes.

Contents:
"Cut out" a weak acidic ion exchange resin for streptomycin extraction, by Chu Hsiu-ch'ang and others
Electrochemical anticorrosion test in barium nitrate mother liquor, by Chao Ch'ing-Ch'un
Catalytic activity of heat-treated polyacrylonitrile, Rept. 1, by Cheng Te-shui and Jen Hsin-Min
Kinetics of ethylene production by liquid phase hydrogeneration of acetylene, by Ten Chih-Kung and Wang Hui-chun.

Beyaert, M. and Hansens, M.
THE PREPARATION OF MONO- AND DIBROMOPENTAERYTHRITOL. [1962] 24p. 3 refs.
Order from SLA $2.60 62-16291

Trans. of [Natuurwetenschappelijk Tijdschrift (Belgium) 1940, v. 22, p. 249ff].

DESCRIPTORS: *Bromine compounds, *Butanols, Preparation, Purification, Acetic acids, Ethanols.

Birshtein, T. M.
LA ROTAZIONE INTERNA NELLE CATENE POLIMERE E LE LORO PROPRIETA FISICHE (Internal Rotation in Polymer Chains and Their Physical Properties). 18p. 19 refs. CNP-35. (text in Italian).
Order from OTS or ETC $1.85 62-26107

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1959, no. 5, p. 748-757.

DESCRIPTORS: Polymers, *Butenes, *Magneto-optic rotation, Valence, Theory.

Birshtein, T. M., Burshtein, L. L., and Ptitsyn, O. B.
LA ROTAZIONE INTERNA NELLE CATENE DEI POLIMERI E LE LORO PROPRIETA FISICHE. I MOMENTI DIPOLARI DEI COPOLIMERI (Internal Rotation in Polymer Chains and Their Physical Properties. XII. Dipole Moments of Copolymers). 21p. 15 refs. CNP-36. (text in Italian).
Order from OTS or ETC $1.87 62-26108

Trans. of Zhurnal Tekhnicheskoi Fisiki (USSR) 1959, no. 7, p. 896-905.

DESCRIPTORS: Polymers, *Styrenes, *Dipole moments, Chemical reactions.

Daletskii, G.
A NEW CLASS OF INHIBITORS: POLYMERIZATION RETARDERS. [1962] 2p.
Order from ATS $4.25 ATS-89P62R

Trans. of Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1947, v. 21, no. 2, p. 231-232.

DESCRIPTORS: *Polymerization, Inhibition, *Catalysts.

Egorova, Z. S., Malinskii, Yu. M. and others.
THE KINETICS OF THE DISAPPEARANCE OF FREE RADICALS IN IRRADIATED POLY(VINYL CHLORIDE). [1962] 2p.
Order from ATS $3.50 ATS-23P62R

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1962, v. 4, no. 1, p. 64.

DESCRIPTORS: *Free radicals, *Polymers, *Vinyl radicals, Chlorides, *Reaction kinetics.

Fukumoto, Osamu.
ON THE IMPURITIES CONTAINED IN ε-CAPROLACTAM. Rept. no. 5 of Studies on the Production of ε-Caprolactam. Oct 62, 9p. 5 refs.
Order from SA $18.00 SA Code-G610

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 9, p. 1668-1670.

DESCRIPTORS: *Lactams, Production, Impurities, Anilines, Ammonium radicals, Acetates, Nitrobenzenes.

Grinshtein, E. I., Bruker, A. B., and Soborovskii, L. Z.
HYDROXYMETHYLATION OF PHOSPHINE AND ITS DERIVATIVES. [1962] [7]p. 7 refs.
Order from OTS or SLA $1.10 62-10244

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 139 [no. 6] p. 1359-1362.

DESCRIPTORS: *Phosphines, Methyl radicals, Hydroxides, Chemical reactions, Formaldehyde.

Experiments show that PH_3 and organic phosphines react with HCHO under conditions where there is no source of the protons necessary for formation of formaldehyde cations. This reaction proceeds by an electrophilic attack by the C atom of the carbonyl group on the P atom of the phosphine molecule, leading to the formation of a (hydroxymethyl)phosphine. The latter is converted further to the corresponding bis- and tris(hydroxymethyl) derivatives. This assumption is in good agreement with the observation that methyl- and dimethylphosphine react more readily than PH_3 with paraformaldehyde. This is explained by the increase in electron-donor properties of P in the series $PH_3 < CH_3PH_2 < (CH_3)_2PH$.

Grob, C. A. and Winstein, S.
THE MECHANISM OF MUTAROTATION OF 5, 6-DIBROMOCHOLES-TANE. [1962] 20p. (diagrs., tables, refs. omitted).
Order from SLA $1.60 62-14943

Trans. of Helvetica Chimica Acta (Switzerland) 1952, v. 35, p. 782-801.
Another trans. is available from SLA as no. 2910.

DESCRIPTORS: *Molecular rotation, Molecular isomerism, *Bromine compounds *Cholesterol, Chemical equilibrium.

Hansens, M. and Beyaert, M.
THE PREPARATION OF TRI- AND TETRABROMO-PENTAERYTHRITOL. [1962] 9p. 7 refs.
Order from SLA $1.10 62-16267

Trans. of [Natuurwetenschappelijk Tijdschrift (Belgium) 1940, v. 22, p. 263-268].

DESCRIPTORS: *Bromine compounds, *Butanols, Preparation, Acetic acids.

Hashimoto, Shizunobu, Furukawa, Isao, and Yanagawa, Tetsunosuke.
SYNTHESIS OF ORGANO-PHOSPHORUS ACID DIALLYL ESTERS AND THE INCLUENCE OF CHEMICAL STRUCTURE ON THE POLYMERIZATION CHARACTERISTICS AND INFLAMMABILITY OF THEIR POLYMERS. Oct. 62, 17p. 12 refs.
Order from SA $21.00 SA Code-G613

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 9, p. 1682-1686.
Another trans. is available from SLA $1.60 as 62-18039 [1962] 20p.

DESCRIPTORS: *Phosphorus acids, Allyl radicals, *Esters, Chlorides, Phosphines, Synthesis, Molecular structure, Polymerization, Inflammable materials, Combustion.

Kamiya, Yoshio.
FORMATION OF PROPYLENE OXIDE BY THE OXIDATION OF PROPYLENE. Rept. 1 of Studies on Oxidation of Olefins. Oct 62 3p.
Order from SA $15.00 SA Code-G570

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 8, p. 1513-1514.
Another trans. is available from ATS $3.00 as ATS-33P62J [1962] 2p.

DESCRIPTORS: *Propenes, Preparation, Oxidation, Oxides, Acetaldehyde.

Karnojitzky, Vsevolod; Kohn, Samuel; and Schneebeli, Pierre.
AUTOXIDATION OF DIALLYL PHTHALATE (Autoxydation du Phtalate Diallylique). [1962] 29p. 33 refs.
Order from SLA $2.60 62-16013

Trans. of Soc[iété] Chim[ique de] France. Bull[etin] 1961 [no. 3] p. 449-460.

DESCRIPTORS: *Allyl radicals, *Phthalates, Oxidation, Polymerization, *Reaction kinetics, Absorption, Chemical bonds.

Contents:
Identification and conditions of formation of products obtained by the effect of air oxygen at 80° and at 130°
Kinetic study of oxygen absorption
Discussion of the reaction mechanism.

Kawai, Wasaburo and Tsutsumi, Shigeru.
REACTION OF PHENOL AND BUTADIENE UNDER THE OXYGEN PRESSURE. Oct 62, 12p. 6 refs.
Order from SA $18.00 SA Code-G303

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 3, p. 467-468.

DESCRIPTORS: *Phenols, *Pentadienes, Chemical reactions, Oxygen, Pressure, *Phenoxy radicals, Polymerization, Inhibition.

Korshak, V. V., Vinogradova, S. V., and Lebedeva, A. S.
NEW METHOD OF SYNTHESIZING GRAFT AND BLOCK COPOLYMERS. [1962] 1p.
Order from ATS $2.00 ATS-41P63R

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 7, p. 1117.

DESCRIPTORS: *Polymers, *Copolymerization, Synthesis.

Kunichika, S. and Katagiri, T.
SYNTHESIS OF VINYL SULFONIC ACID (VS) AND THE MONOMER REACTIVITY RATIO (MRR) AND DYEABILITY OF ITS COPOLYMER WITH ACRYLONITRILE. Rept. 1 of Studies on Vinyl Sulfonic Acid. Oct 62, 24p. 11 refs.
Order from SA $24.00 SA Code-G419

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 5, p. 929-932.

DESCRIPTORS: *Vinyl radicals, *Sulfonic acids, Synthysis, Chemical reactions, *Dyes, *Acrylonitriles, Polymerization.

Orlov, N. F.
NUOVI COMPOSTI ORGANICI DEL SILICIO E DELL'ALLUMINIO DI TIPO R3SiOA1X2, Contenenti Alogenuri (New Halogen containing Aluminosilicon Organic Compounds of type $R_3SiOA_1X_2$). 7p. 3 refs. CNP-32. (text in Italian).
Order from OTS or ETC $1.55 62-26104

Trans. of Akademiya Nauk SSSR. Doklady, 1957, v. 114, no. 5, p. 1033-1035.

DESCRIPTORS: *Organic compounds, *Silicon compounds, Aluminum compounds, Halogen compounds, Synthesis, Physical properties.

Sobue, Hiroshi and Saito, Yoshitami.
POLYMERIZATION OF n-BUTYLVINYL ETHER WITH THE AID OF ZIEGLER CATALYST. Oct 62, 5p. 5 refs.
Order from SA $15.00 SA Code-G524

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 7, p. 1321-1322.

DESCRIPTORS: *Butyl radicals, *Vinyl radicals, Ethers, Polymerization, Catalysts, Aluminum, Titanium.

Tyutyunnikov, B. N. and Bogdan, I. V.
CHANGES IN RADICALS OF FATTY ACIDS TAKING PLACE DURING HEATING OF ESTERS WITH AN ACIDIC ALUMINOSILICATE. [1962] 4p.
Order from ATS $7.00 ATS-98P62R

Trans. of Maslob[oino]-Zhir[ovaya] Prom[yshlennost'] (USSR) 1960, v. 26, no. 9, p. 20-22.

DESCRIPTORS: *Fatty acids, *Esters, Heating, Alumina-silica catalysts, Acids.

Physical Chemistry

THERMAL DIFFERENTIAL ANALYSIS APPLIED TO THE DETERMINATION OF TEMPERATURE CHARACTERISTICS AND TO THE APPROXIMATE EVALUATION OF THE THERMAL TONALITY OF COMPLEX CHEMICAL PROCESSES. [1962] 17p.
Order from K-H $21.25 K-H 6196-a

Trans. of la Chimica e l'Industria (Italy) 1951, v. 33, no. 2, p. 71-76.

DESCRIPTORS: *Calorimetry, Physical properties, Temperature coefficient of reactivity, *Chemical reactions.

Arbuzov, D. A.
IMPORTANCE OF PHYSICAL METHODS OF INVESTIGATION FOR THE STUDY OF ORGANIC COMPOUNDS. 24 Oct 62 [14]p. JPRS: 15859.
Order from OTS or SLA $1.60 62-33598

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 8, p. 25-33.

DESCRIPTORS: *Organic compounds, Molecular structure, Chemical bonds, Physical chemistry, *X-ray diffraction analysis, *Electron diffraction analysis, *Spectrographic analysis.

Bakhman, N. N. and Polikarpov, D. P.
HETEROGENEOUS COMBUSTION IN A SYSTEM CONTAINING CONDENSED COMPONENTS.
5 June 62 [18]p. 1 ref. FTD-TT-62-709.
Order from OTS or SLA $1.60 62-32518

Unedited rough draft trans. of Akademiya Nauk SSSR. [Otdelenie Tekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1961, no. 4, p. 37-42.

DESCRIPTORS: *Flame propagation, Combustion, Condensation, *Oxidizers, Potassium compounds, Chlorates, Chlorites, Manganates, Barium compounds, Oxides, *Fuels, Polymers, Acrylic resins, Ethylenes, Styrenes, Vinyl chlorides.

A study was made of the propagation of a flame along a plane and cylindrical surface of contact of a number of solid inorganic oxidizing agents incapable of burning in their pure form ($KClO_4$, $KClO_3$, $KMnO_4$, BaO_2) and solid fuels: polymethyl methacrylate (Plexiglas), polyethylene, polystryrene, polyvinyl chloride (vinyplast), and others. The tests were conducted in an inert gas (nitrogen) at the pressures p = 0 to 100 atm (gage). (Author)

Boyarchuk, Yu. M., Buben, N. Ya., and Margolin, A. D.
THE STABILIZATION OF FREE RADICALS IN ION CRYSTAL MATRICES [AND] THE LEADING STAGE OF BURNING. 2 May 62 [19]p. 21 refs.
FTD-TT-62-229.
Order from OTS or SLA $1.60 62-25545

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 141, no. 5, p. 1120-1123 and 1131-1134.

DESCRIPTORS: *Free radicals, Alcohols, Stabilization, *Crystals, Ions, *Explosives, *Flame propagation, Surface properties, Temperature.

Elinson, M. I. and Vasil'ev, G. F.
FIELD EMISSION OF TANTALUM. [1961] 4p. 2 refs.
MDF E-101.
Order from OTS $0.50 62-11264

Trans. of #Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1956, v. 26, no. 8, p. 1669-1670.

DESCRIPTORS: *Tantalum, *Field emission, Electrochemistry, Photoengraving, Test equipment, Degasification.

Figurovskii, N. A. and Smirnova, A. M.
ELECTROCONDUCTIVITY OF THIN LAYERS OF POWDERED SORBENTS UNDER CONDITIONS OF SORPTION OF GASES AND VAPORS. [1962] 3p. 1 ref.
Order from OTS or SLA $1.10 62-16810

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1941, v. 15, no. 6, p. 760-767.

DESCRIPTORS: *Activated carbon, Powders, Electrical conductance, Gases, Vapors. Sorption, Thin films.

Gal'chenko, G. L., Timofeev, B. I. and Skuratov, S. M.
DETERMINING THE HEAT OF FORMATION OF DECABORANE. 9 July 62 [8]p. 7 refs. FTD-TT-62-985; AD-284 153.
Order from OTS or SLA $1.10 62-32988

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 142, no. 5, p. 1077-1080. Another trans. is available from OTS or SLA $1.10 as 62-18029, 11 May 62 [7]p.

DESCRIPTORS: *Thermochemistry, *Decaboranes, *Heat of formation, Determination, Pyrolysis.

Gaus, H.
CALCULATION OF THE DIFFUSION OF RADIOACTIVE GASES. I. (DIFFUSION OF INERT GASES IN SOLIDS 6). [1962] 9p.
Order from ATS $15.25 ATS-11P62G

Trans. of Z[eitschrift für] Naturforsch[ung] (West Germany) 1961, v. 16a, p. 1130-1135.

DESCRIPTORS: *Solids, *Rare gases, Gases, Radioactivity, *Diffusion. Determination.

Gaus, H.
CALCULATION OF THE DIFFUSION OF RADIOACTIVE GASES. II (DIFFUSION OF INERT GASES IN SOLIDS. 8). [1962] 13p.
Order from ATS $19.75 ATS-12P62G

Trans. of Z[eitschrift für] Naturforschung (West Germany) 1962, v. 17a, p. 297-305.

DESCRIPTORS: *Solids, *Rare gases, Gases, Radioactivity, *Diffusion, Determination.

(See also ATS-11P62G)

Givukhin, S. M., Tolstoguzov, V. B., and Levitski, M. M.
SULLA SINTESI DEL CLORURO DI FOSFONITRILE. BREVI COMUNICAZIONI (About the Synthesis of Fosfornitrile Chloridi. Short Communication). 8p. 4 refs. CNP-39. (text in Italian).
Order from OTS or ETC $1.55 62-26111

Trans. of Zhurnal Obshchei Khimii (USSR) 1961, n. 10, p. 2414-2416.

DESCRIPTORS: *Phosphonitrile chlorides, Synthesis.

Gorislavets, I. O.
PHOTOCHEMICAL NITRATION OF BENZENE AND NITROBENZENE WITH NITROGEN OXIDES. [1962] 3p. 1 ref.
Order from OTS or SLA $1.10 62-16836

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1943, v. 17, no. 2, p. 102-107.

DESCRIPTORS: *Photochemistry, *Benzenes, *Nitrobenzenes, Nitration, *Nitrogen compounds, Oxides.

Jirgensons, B.
TRANSFORMATION OF SPHERICAL PROTEINS INTO LINEAR PROTEINS ON DEAMINATION, III (Umwandlung Einiger Sphäroptroteine in Linearproteine bei Desaminierung, III). [1962] [21]p. 19 refs.
Order from SLA $2.60 62-16752

Trans. of Journal für Praktische Chemie (Germany) 1944, v. 162, p. 224-236.

DESCRIPTORS: *Proteins, *Molecular structure, Amines, Decomposition, *Solutions, *Age factor, *Viscosity.

The dependability of viscosity of solutions of the deaminated casein, albumin, hemoglobin and edestin on concentration and the time was examined. It was found that in a region of low concentration and with an excess of sodium hydroxide the viscosity number n_{sp}/c diminishes with increasing concentration. In the region of low concentration and with an excess of alkali all the investigated deaminated proteins have almost the same viscosity numbers. Also the dependence of viscosity upon the concentr ition as well as time is in all cases very similar. W th an excess of OH the viscosity diminishes with time. However, in the range of low concentration the changes in the period of a few days are very small. With the aid of precipitation titration it was shown that in during this period of time the linkages are not at all or only slightly decomposed. (Author)

Keier, N. P. and Roginskii, S. Z.
INVESTIGATIONS ON THE HETEROGENEITY OF ACTIVE SURFACES BY THE DIFFERENTIAL ISOTOPE METHOD. I. THE ACTIVE SURFACE OF METALLIC NICKEL AND ZINC OXIDE (Izuchenie Neodnorodnosti Aktivnykh Poverkhnostei Differentsial'nym Iztopnym Metodom. I. Aktivnaya Poverkhnost' Metallicheskogo Nikelya i Okisi Tsinka). July 62 [21]p. 10 refs. RTS 2059.
Order from OTS or SLA $2.60 62-32474

Trans. of A[kademiya] N[auk] SSSR. Otdel[enie] Khim[icheskikh] Nauk. Izvest[iya] 1950, no. 1, p. 27-38. A trans. is available in Dutch from OTS or ETC $1.87 as 61-17060, MTWL-426, 21p.

DESCRIPTORS: *Nickel, Zinc compounds, Oxides, Surface properties, Isotopes.

The authors have shown that the active surface of metallic nickel has heterogeneous characteristics during the adsorption of hydrogen. They also proved that the adsorbed molecules of hydrogen have either no mobility or a limited mobility on the nickel surface. The

active surface of zinc oxide is heterogeneous with respect to the adsorption of hydrogen. The adsorbed molecules of hydrogen have either no mobility or a limited mobility on the surface of zinc oxide. The authors discuss the difference in the adsorption of hydrogen at room temperature and at temperature above 100°. (Author)

Koptyug, V. A., Isaev, I. S., Vorozhtsov, N. N.
METHODE DE DÉGRADTION DU TOULÈNE ^{14}C DANS LE BUT DE DÉTERMINER LA POSITION DU MARQUER DANS LE NOYAU [Method of Cleaving Toluene-C^{14} With the Purpose of Determining the Position of the Label in the Nucleus] tr. by Kefeli.
3 Mar 62 [10]p. 16 refs. CEA Trans. no. R 1566 (text in French).
Order from OTS or SLA $1.10 62-25082

Trans. in French of Akad[emiya] Nauk SSSR. Dokl[ady] 1961, v. 137, no. 4, p. 866-868.

DESCRIPTORS: *Radiochemistry, *Toulenes, Decomposition, *Radioactive isotopes, Carbon, Valeric acids.

Krejoi, Frantisek.
THE STABILITY OF CELLULOSE NITRATES (Stabilisovatelnost Nitratu Celulosy). [1962] 10p. (figs. omitted) 15 refs. H-8305; JPRS (R-1464-D).
Order from OTS or SLA $1.10 62-25224

Trans. of Chemicky Prumysl (Czechoslovakia) 1960, v. 10(35) no. 3, p. 123-126.

DESCRIPTORS: *Stability, Reaction kinetics, *Cellulose nitrates, Sulfuric acid, Nitrates.

The author investigated the connection among the stability of industrially produced cellulose nitrates, the content of bound sulfuric acid, and stabilization time. It was found that when the liberation of bound sulfuric acid from cellulose nitrate ceases the stability of the nitrate reaches a constant value corresponding to stable nitrate. (Author)

Krevelen, D. W. van.
MASS TRANSFER AND KINETICS IN CONTACT CATALYSIS (Stoftransport en Kinetiek bij de Contactkatalyse). [1962] 22p. 9 refs.
Order from SLA $2.60 62-14907

Trans. of Chemisch Weekblad (Netherlands) 1951, v. 47, no. 27, p. 427-435.

DESCRIPTORS: *Catalysis, *Mass transfer, *Reaction kinetics, Surface properities, Diffusion, Fluid flow.

Morikawa, Kiyoshi and Nozaki, Fumio.
REDUCIBILITY BY H_2, SOLUBILITY IN DILUTE HCl SOLUTION, AND REACTIVITY OF REDUCED CATALYST WITH CO. Pt. 1 of Surface Composition and Chemical Properties of the Supported Nickel Catalysts; Pt. 3 of Study on the Selective Catalytic Action of the Supported Nickel Catalysts. Oct 62, 24p. 10 refs.
Order from SA $24.00 SA Code-G585

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 9, p. 1562-1567.

DESCRIPTORS: *Nickel catalysts, Surface properties, Chemical properties, Hydrogen, Reduction, Hydrochloric acid, Solubility, Carbon compounds, Monoxides, Chemical reactions.

Morikawa, Kiyoshi and Nozaki, Fumio.
X-RAY ANALYSIS, INFRARED SPECTRUM ANALYSIS, AND DIFFERENTIAL THERMAL ANALYSIS. Pt. 2 of Surface Composition and Chemical Properties of the Supported Nickel Catalysts; Pt. 4 of Study on the Selective Catalytic Action of the Supported Nickel Catalysts. Oct 62, 20p. 12 refs.
Order from SA $21.00 SA Code-G586

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 9, p. 1568-1573.

DESCRIPTORS: *Nickel catalysts, Surface properties, Chemical properties, X-ray diffraction analysis, Infrared spectroscopy, Pyrolysis.

Musakin, A. P. Vladimirova, T. M. and others.
QUELQUES PROBLÈMES DE LA SYNTHÈSE DES COMPOSÉS MARQUES [Some Problems in the Synthesis of Tagged Compounds] tr. by Fedorov.
20 Feb 62 [10]p. 6 refs. CEA Trans. no. R 1496 (text in French).
Order from OTS or SLA $1.10 62-25087

Trans. in French of Radiokhimiya (USSR) 1959, v. 1, no. 6, p. 734-737.

DESCRIPTORS: *Radiochemistry, *Labeled substances, Synthesis, Towers (Chemistry), *Citric acids, *Potassium compounds, Cyanides.

On a proposé pour la synthèse des substances marquées un appareil en verre, avec des pièces interchangeables, qui permet d'exclure le transfert de la substance radioactive d'un récipient à l'autre. Pour la synthèse de l'acide citrique marqué, le produit initial était obtenu a partir de l'acide citrique ordinaire non-marqué. La méthode de la synthèse du cyanure de potassium marqué était quelque peu améliorée. (Author)

Nagase, Kunihiko and Sakaguchi, Kahei.
THE SEPARATION OF POLYETHYLENEGLYCOL FROM THE NONIONIC SURFACTANT BY THE METHOD OF COUNTER-CURRENT DISTRIBUTION EXTRACTION. Rept. 2 of Studies on the Addition Reaction of Ethylene Oxide. Oct 62, 11p. (figs. omitted) 9 refs.
Order from SA $18.00 SA Code-G346

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 4, p. 635-638.
Another trans. is available from SLA $1.60 as 61-20681 [1961] 11p.

DESCRIPTORS: *Separation, Quantitative analysis, *Glycols, *Ethylenes, *Ethylene oxide, Detergents, *Wetting agents.

Nesmeyanov, A. N., Noghina, O. V. and Dubovitskii, V. A.
LA DISSOCIAZIONE LENTA DEGLI ASSOCIATI DEI DERIVATI ALCOSSILICI E ALCHILICI DEI METALLI IN SOLUZIONE (The Slow Dissociation of the Association Compounds of the Silico Alchol and Alkyl Derivatives of Metals in Solutions). 7p. 8 refs. CNP-38. (text in Italian).
Order from OTS or ETC $1.55 62-26110

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 134, no. 6, p. 1363-1366.

DESCRIPTORS: *Decomposition, Alkyl radicals, Silicones, *Metalorganic compounds, Solutions, Complex compounds.

Novikov, S. S. and Ryazantsev, Yu. S.
A MODEL OF UNSTEADY BURNING. 18 Jan 62 [7]p. 13 refs. FTD-TT-61-388; AD-270 752.
Order from OTS or SLA $1.10 62-15836

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 140, no. 2, p. 409-411.

DESCRIPTORS: *Propellants, *Rocket propellants, *Combustion, Stability, Acoustic impedance, Pipes, Mathematical analysis.

The acoustic impedance of a burning surface is investigated using a one-dimensional model in which instability occurs only on the longitudinal acoustic modes. (ASTIA abstract)

Novosad, Z.
A NOMOGRAM FOR DETERMINING CHEMICAL EQUILIBRIUM IN THE SYSTEM ETHYLENE-ETHANOL-WATER. [1962] 5p.
Order from ATS $6.75 ATS-35P62C

Trans. of Chem[icky] Prumysl (Czechoslovakia) 1955, v. 5(30) no. 2, p. 72-74.

DESCRIPTORS: Nomographs, *Chemical equilibrium, *Ethylenes, *Ethanols, Water.

Ohshika, Takao.
THE THERMAL DEGRADATION OF POLYPROPYLENE DERIVATIVES. Rept. 9 of Studies on Polypropylene. Oct 62, 32p. 10 refs.
Order from SA $30.00 SA Code-G646

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 10, p. 1859-1864.

DESCRIPTORS: *Propenes, Polymers, Sulfur compounds, Chlorine compounds, Pyrolysis, Infrared spectroscopy, Reaction kinetics, Chemical bonds.

Ostroumov, V. V.
THE EFFECT OF SOME ORGANIC COMPOUNDS ON THE PROCESS OF PALLADIUM PLATING (Vliyanie Nekotorykh Organicheskikh Veshchestv na Protsess Palladirovaniya). Oct 61 [15]p. (foreign text included) 6 refs. NLL M. 3492.
Order from OTS or SLA $1.60 62-23960

Trans. of #Zhur[nal] Prikl[adnoi] Khim[ii] (USSR) 1958, v. 31 [no. 3] p. 402-408.

DESCRIPTORS: Plating, *Palladium, Organic compounds, Electrolytes, Electrodeposition, Decomposition, Electrolysis, Metal films, *Furaldehydes, Solutions, Brightness.

Studies of the effect of furfural and protalbinic acid additions to electrolytes for palladium plating have shown that furfural cannot be utilized as a brightening solution, whereas protalbinic acid, in amounts of 0.1-0.2 g./litre, exerts a beneficial influence on the properties of palladium deposits. The presence of protalbinic acid results in a decrease in the rate of decomposition of the unstable system Pd+ H, which forms during electrolysis, through the provision of films on crystal interfaces, which inhibit the yield of hydrogen to the surrounding environment. (Author)

Ravich, M. B. and Zakharov, B. A.
CATALYTIC COMBUSTION ON REFRACTORY SURFACES. [1961] 5p.
Order from OTS or SLA $1.10 61-16821

Condensed trans. of [Akademiya Nauk SSSR]. Energeticheskii Institut. Izvestiya, 1940, v. 9, p. 23-29.

DESCRIPTORS: *Refractory materials, Quartz, Iron compounds, Nickel compounds, Chromium compounds, Oxides, Combustion, Catalysis.

This work established that quartz packing accelerates the combustion, especially at temperatures below 700° and that fire clay grog is more active than quartz at temperatures higher than 700°, but at lower temperatures the relationship is reversed. Oxides of nickel and iron exert a higher promoting effect than vanadium oxides and permit a lowering of the combustion temperature on fire clay grog by 550° C. Dunite, a natural refractory material from Ural containing, in addition to iron oxides, also oxides of nickel and chromium, revealed a considerable catalytic activity in the process under discussion and in its presence the combustion temperature could be reduced by 400°, the reaction velocity remaining unchanged. The activity of the latter, unlike chamotte fire clay, increases somewhat as a result of thermal treatment at 950° C. (Author)

Semenov, N. N.
THE KARPOV INSTITUTE OF PHYSICAL CHEMISTRY OF THE PEOPLE'S COMMISSARIAT OF THE CHEMICAL INDUSTRY AND ITS ROLE IN THE DEVELOPMENT OF PHYSICAL CHEMISTRY. [1962] 3p.
Order from OTS or SLA $1.10 62-16835

Abstract trans. of Zhurnal Fizicheskoi Khimii (USSR) 1943, v. 17, no. 5/6, p. 275-294.

DESCRIPTORS: *Scientific organizations, Scientific research, Physical chemistry.

Shamovskii, L. M., Dunina, A. A., and Gosteva, M. I.
CONDUCIBILITA DEI "FORI" NEL BROMURO DI ARGENTO (Conductivity of the "Gates" of Silver Bromide). 11p. CNP-11, (text in Italian).
Order from OTS or ETC $1.85 62-26090

Trans. of Akademiya Nauk SSSR. Doklady, 1956, v. 106, no. 5, p. 830.

DESCRIPTORS: *Silver compounds, *Bromides, Conductivity.

Shternina, E. B.
ATTEMPT TO CALCULATE THE SOLUBILITY OF CALCIUM SULFATE IN AQUEOUS SOLUTIONS OF SALTS [Popytka Rascheta Rastvorimosti Sul'fata Kal'stiya v Vodnykh Rastvorakh Solei]. [1962] 5p.
Order from ATS $8.50 ATS-28P62R

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1948, v. 60, no. 2, p. 247-250.
Another trans. is available from HB as HB-3124.

DESCRIPTORS: *Calcium compounds, *Sulfates, Solubility, Salts.

Sobue, Hiroshi and Murakami, Kenkichi.
RAPID DETERMINATION OF MOLECULAR WEIGHT DISTRIBUTION OF HIGH POLYMERS. Oct 62, 3p. 2refs
Order from SA $15.00 SA Code-G376

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 4, p. 745.

DESCRIPTORS: *Polymers, *Molecular weight, Determination, Viscosity.

Sommer, L. and Benisek, L.
THE POLAROGRAPHIC BEHAVIOR OF CATECHOL, TIRONE, 1:8 DIHYDROXYNAPHTHALENE AND CHROMOTROPIC ACID (Prispevek k Polarografickemu Chovane Pyrokatechinu, Tironu, 1:8 Dihydroxynaftalenu a Kyseliny Chromotropove). [1960] [6]p. 11 refs.
TIL/T 4747; M1660; AD-147 045.
Order from OTS or SLA $1.10 60-19911

Trans. of Chem[icke] Listy (Czechoslovakia) 1956, v. 50, p. 1215-1218.

DESCRIPTORS: *Phenols, Polarographic analysis, Electrochemistry, Cyclohexanols, Pyrocatechol, Buffers, Oxidation, Acids, Naphthalenes.

Takahashi, T., Shishido, C. and others.
ELECTRICAL PROPERTIES OF DYES. [1962] 13p.
Order from ATS $13.75 ATS-46P62J

Trans. of Denshi Shashin (Japan) 1961, v. 3, no. 3, p. 9-17.

DESCRIPTORS: *Dyes, Electrical properties, *Electrophotography.

Takami, Yasuo.
R_4Sn-$TiCl_4$ COMPLEX CATALYST FOR ETHYLENE POLYMERIZATION AND THE POLYMER OBTAINED BY THE CATALYST. Rept. 2 of Studies on R_4Sn-$TiCl_4$ Complex Catalyst for Olefine Polymerization. Oct 62 [13]p. (figs. omitted) 4 refs.
Order from SA $18.00 SA Code-G691

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 11, p. 2049-2052.

DESCRIPTORS: *Ethylenes, Polymerization, Molecular structure, *Complex compounds, *Catalysts, *Titanium compounds, Chlorides.

Tani, H. and Sato, C.
STUDIES ON POLYETHYLENES. V. POLYMERIZATION REACTION OF ETHYLENE. 5. KINETICS OF POLYMERIZATION REACTION. Oct 62, 30p. (figs. omitted) 15 refs.
Order from SA $27.00 SA Code-H1

Trans. of Kobunshi Kagaku (Japan) 1948, v. 5, p. 57-73.

DESCRIPTORS: *Ethylenes, Polymerization, Reaction kinetics, Pressure, Catalysts, Aluminum, Copper.

Vorob'ev, V. I.
CERTAIN NEW ASPECTS OF MECHANOCHEMICAL PHENOMENA. 17 Apr 62 [9]p. 9 refs.
FTD-TT-62-204.
Order from OTS or SLA $1.10 62-25544

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 137, no. 4, p. 972-975.

DESCRIPTORS: *Mechanics, Chemistry, *Nucleic acids, *Proteins, Fibers, Deformation, Hydrogen ion concentration, Thermodynamics.

Wolf, Viktor.
ELECTROLYTIC OXIDATION OF ALKINOLS. [1962] 12p. (figs. omitted) 21 refs.
Order from SLA $1.60 62-16760

Trans. of Chem[ische] Berichte (West Germany) 1954, v. 87 [no. 5] p. 668-676.

DESCRIPTORS: *Electrochemistry, *Acetylenes, *Alcohols, Carboxylic acids, Ketones, Electrolysis, Hydrogen ion concentration, Anodes (Electrolytic cell), Cathodes (Electrolytic cell).

The electrolytic oxidation of primary and secondary acetylene alcohols in acid solution led to acetylene-carboxylic acids and acetylene ketones. The reaction was studied in its dependence on electrochemical factors. (Author)

Tsukhanova, O. A.
THE CALCULATION OF OVER-ALL REACTION RATES AND FLAME VELOCITIES IN GAS MIXTURES. 17 May 62 [17]p. FTD-TT-62-270.
Order from OTS or SLA $1.60 62-25827

Unedited rough draft trans. of mono. Issledovanie Protsessov Gorenie, Moscow, 1958, p. 81-90.

DESCRIPTORS: *Flame propagation, *Combustion, Reaction kinetics, Velocity, *Carbon compounds, Monoxides.

EARTH SCIENCES

CZECHOSLOVAK GEOPHYSICAL AND ASTRONAUTICAL ACTIVITIES; CZECHOSLOVAK WORK PROGRAM FOR INTERNATIONAL GEOPHYSICAL COOPERATION 1959 [AND] THE ASTRONAUTICAL COMMISSION OF THE CZECHOSLOVAK ACADEMY OF SCIENCES. 20 Nov 59 [13]p. JPRS: 1028-D.
Order from OTS or SLA $1.60 60-31004

Trans. of Ceskoslovenska Akademie Ved. Vestnik, 1959, v. 68, no. 2, p. 253-258 and p. 265-266.

DESCRIPTORS: *Geophysics, *Astronautics, Meteorology, Terrestrial magnetism, Aurorae, Night sky, Sky brightness, Ionosphere, Meteors, Solar flares, Cosmic rays, Satellite vehicles, Rockets, Earthquakes, Gravity, Radioactivity, Czechoslavakia.

GEOMAGNETISM AND AERONOMY, 1961, VOL. 1, NO. 4: SELECTED TRANSLATIONS. 2 Apr 62 [210]p. 242 refs. JPRS: 13276.
Order from OTS or SLA $14.00 62-23807

Trans. of Geomagnetizm i Aeronomiya (USSR) 1961, v. 1, no. 4, p. 453-478, 483-489, 494-499, 507-530, 548-551, 557-560, 572-587 [597-599] 606-620, 627-628.

DESCRIPTORS: *Terrestrial magnetism, Magnetism, *Atmosphere, *Geophysics, Ionosphere, Magnetic fields, Shock waves, Particles, Acceleration, Cosmic rays, Solar flares, Aurorae, Light, Sky brightness, Magnetic effects, Electromagnetic fields, Oscillation, Solar eclipse, Meteorites, Explosions, Radio waves, Ionospheric propagation.

Contents:
Movements of heterogeneities in the ionosphere, by Yu. V. Kushnerevskii and S. F. Mirkotan
On the question of disruption of adiabatic invariant and accelerations of particles in magnetic fields and shock waves, by V. P. Shabanskii
Intensity flashes of cosmic rays in the stratosphere in Nov 60, by A. N. Charakhch'yan and others
On the effect of "small" solar flares in cosmic rays during a maximum of solar activity, by E. V. Kolomeets and M. I. Tyasto
Cosmic ray outburst of 12-15 Nov 60, by A. I. Kuz'min and others
Instantaneous light characteristics of polar aurorae based on observations on an electrophotometer, of the entire sky, by Yu. A. Nadubovich
Geomagnetic effects in the ionosphere, by G. B. Lopatina and Ya. I. Fel'dshtein
Some results of investigations of short-period oscillations of the electromagnetic field of the earth during aurorae, by L. V. Al'perovich
Annual variations of the geomagnetic field in the USSR for the period 1948-59, by N. V. Adam and V. P. Orlov
Annual variations in H, D and Z and determination of mean annual values of magnetic elements based on high latitude observations, by N. V. Adam and V. P. Orlov
Change in the geomagnetic field in the past according to paleomagnetic, archeomagnetic and observatory data, by S. P. Burlatskaya and G. N. Petrova
Equipment for ionospheric investigations on three frequencies, by Yu. V. Berezin
State of the ionosphere over Rostov-on-Don during the period of the total solar eclipse of 15 Feb 61, by N. P. Danilkin and others
On the causes of successive variations of a field in the geomagnetic effect of the Tungusk meteorite, by K. G. Ivanov
Certain features of the cyclic variations in the fl layer over Irkhutsk, by L. A. Shchepkin
Annotations to articles on geomagnetism and aeronomy

SUMMARY OF WEATHER REPORT FOR MAY AND JUNE 61 IN NORTH VIETNAM. 20 Sep 61 [15]p. JPRS: 10185.
Order from OTS or SLA $1.60 62-19533

Trans. of Thong Bao Thoi Tiet [sic] (North Vietnam) 1961, no. 6, 10 June, p. 1-3, 5 and no. 7, 10 July, p. 1-3.

DESCRIPTORS: Weather forecasting, *Climate, *Vietnam.

In May 1961, the weather in North Vietnam was often cloudy at night and in the morning, while sunny in the afternoon. During the first ten days of the month, as well as in the middle of the month, it rained rather little, except for a few times when the north-eastern monsoon brought with it middling to sizeable rains. It rained a great deal in the last ten days of the month. During June 1961, the sky in the northern part of Vietnam was, for the most part, cloudy. It rained and stormed in many localities. There were 18 to 20 cloudy days while the remaining days either had just a wisp of cloud or were sunny. Rainfall was relatively heavy with the greater part of the area encountering middling to sizeable rains. The heaviest were in the period between 8 and 15 June.

Aleksandrov, V. P.
THE PROBLEM OF THE FORMATION OF SHALLOW-WATER TIDAL WAVES (K Voprosu o Formirovanii Melkovodnykh Prilivnykh Voln). May 62 [11]p. 2 refs. RTS 2087.
Order from OTS or SLA $1.60 62-25465

Trans. of Gosud[arstvennyi] Okeanog[raficheskii] Inst-[itut]. Trudy (USSR) 1961, v. 64, p. 103-111.

DESCRIPTORS: *Water waves, Propagation, White Sea, Beaches, *Tides, *Ocean waves, *Lake waves, Harmonic analysis, Bessel functions, *Wave analysis.

Based on analysis and generalization of all the published information on shallow-water waves at shores and islands of the Ocean, the present paper determines the

region in which shallow-water waves are propagated, the limits of variation of their amplitudes and also their relationship with M_2 waves. Shallow-water waves in the White Sea are discussed in particular detail. (Author)

Gakkel', Ya. Ya.
SCIENCE AND WINNING THE ARCTIC REGION. 27 Mar 62 [241]p. FTS-9993.
Order from OTS or SLA $16.00 62-24262

Unedited rough draft trans. of mono. Nauka i Osvoenie Arktiki, Leningrad, 1957, 133p.

DESCRIPTORS: *Arctic regions, Icebreakers, Meteorology, Oceanography, Ice, Weather forecasting, Navigation, Biology, Minerals, Terrestrial magnetism, Ionosphere, Hydrographic surveying, Mining engineering, Aerial photography, Aerial reconnaissance, Scientific research, Scientific personnel, Weather stations, Mapping, Geography, Arctic specialists, Underwater objects, Barents Sea, Harbors, Paleoecology, Siberia, Canada, Ocean bottom, Geology, Earth, Geophysics, Lithosphere, Bathythermograph data, Volcanoes.

Contents:
Investigations of prewar years
First stage of Soviet researchers
Second international polar year
Expedition on the icebreaker "A. Sibiryakov"
At a new stage
Postwar researchers
High-latitude aerial expeditions
Drifting and shore polar stations
Basic results of meteorological study of Central Arctic
Oceanographic and ice researches
Forecasts of weather and ice conditions of navigations in Arctic seas
Biological researches
Investigation of mineral resources
Investigations of terrestrial magnetism and of ionospheric phenomena
Cartographic and hydrographic operations
Geographical discoveries
Discovery and investigation of the submerged Lomonosov Ridge
Bathymetric chart of the Arctic Basin (1947)
Continental slope
Scope of problems pertaining to the energetics of the earth
On the paleogeography of the Arctic
International Geophysical Year (IGY).

Geodesy

CARTOGRAPHY IN SWEDEN, 1961. 28 Sep 62 [10]p. JPRS: 15483.
Order from OTS or SLA $1.10 62-33343

Trans. of Globen (Sweden) 1961, v. 41, no. 1, p. 6-10.

DESCRIPTORS: *Mapping, Aerial photography, Geodesics, Meteorology, Hydrographic surveying, Hydrology, Geological survey, *Sweden.

Contents:
Chart Bureau of the Royal Maritime Administration, by A. Thunberg
Sweden's Meteorological and Hydrological Institute, by Alf Nyberg
Sweden's geological survey, by E. Mohren.

Konshin, M. D. and Nazarov, N. D.
SOVIET USE OF RADIOGEODESIC STATIONS (RGSTs) IN MAKING TOPOGRAPHIC MAPS. 24 Oct 62 [14]p. JPRS: 15879.
Order from OTS or SLA $1.60 62-33594

Trans. of #Geodeziya i Kartografiya (USSR) 1962 [no. 6] p. 37-46.

DESCRIPTORS: *Mapping, Aerial photography, *Geodesics, *Radio stations.

Krasulin, V. S.
ARVELA MAGNETOMETER (ARM) (Magnitometer Arvela (ARM)). [1962] 2p.
Order from OTS or SLA $1.10 62-16718

Trans. of Razvedka i Okhrana Nedr (USSR) 1955, v. 21, no. 6, p. 59.

DESCRIPTORS: *Magnetometers, Specifications, Geophysical prospecting.

The firm of Levanto (Helsinki) manufactures the Arvela magnetometer ARm model T-7 for measuring the increment of the vertical component of the geomagnetic pole. (Author)

Shutov.
100-METER GRID ON LARGE SCALE MAPS. 12 Jan 61 9p. JPRS: R-110-N/24.
Order from OTS $0.50 61-11755

Trans. of Geodezist (USSR) 1932 [v. 8] no. 4, p. 31-37 [reprinted from Byulleten' Ratsionalizatsii i Informatsii U. V. T. (USSR) 1932, no. 1]

DESCRIPTORS: *Mapping, *Aerial reconnaissance, Military intelligence.

Geology

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 33 (GEOLOGY SERIES). 23 Oct 62 [54]p. JPRS: 15852.
Order from OTS or SLA $5.60 62-33608

Trans. of selected abstracts from Referativnyi Zhurnal. Geologiya (USSR) 1961, no. 2.

DESCRIPTORS: *Abstracts, *Geology, Paleoecology, Geochemistry, Minerals, Petrology, Geophysical prospecting, Hydrology, China.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 34 (GEOLOGY AND GEOGRAPHY SERIES). 24 Oct 62 [42]p. JPRS: 15869.
Order from OTS or SLA $4.60 62-33600

Trans. of selected abstracts from Referativnyi Zhurnal. Geologiya (USSR) 1961, nos. 10-11; 1962, nos. 2 and 7; Referativnyi Zhurnal. Geografiya (USSR) 1962, no. 7.

DESCRIPTORS: *Abstracts, *Geology, *Geography, Geochemistry, Minerals, Paleoecology, Petrology, Geophysical prospecting, Hydrology, Permafrost, China.

Golub, R. A. and Martynova, Z. I.
INTERDEPARTMENTAL CONFERENCE ON RECENT MOVEMENTS OF THE EARTH'S CRUST (NO. 3) MOSCOW, 14-18 NOV 61. 9 July 62, 2p. AID rept. 62-98.
Order from OTS or SLA $1.10 62-32099

Abstract trans. of #Geodeziya i Kartografiya (USSR) 1962, no. 4, p. 74-76.

DESCRIPTORS: *Lithosphere, Motion, *Earth, Geology, Geophysics, Geodesics, *Conferences.

Korzhinskii, D. S.
THE FILTRATION EFFECT IN SOLUTIONS AND ITS IMPORTANCE FOR GEOLOGY. [1962] 14p.
Order from ATS $22.75 ATS-37P62R

Trans. of Akad[emiya] Nauk SSSR. Izv[estiya]. Ser[iya] Geol[ogicheskaya] 1947 [v. 14] no. 2, p. 35-48.

DESCRIPTORS: *Geology, Solutions, Separation.

Stadnikoff, Georg.
GENERAL VIEWPOINTS CONCERNING THE ORIGIN AND DEVELOPMENT OF PETROLEUM. [1962] 7p.
Order from SLA $1.10 62-16650

Trans. of Erdöl und Kohle (West Germany) 1952, v. 5, p. 293-296.

DESCRIPTORS: *Petroleum, Geology, Theory, Bitumens, Minerals, Shales, Stratification.

Mineralogy

Dontsova, E. I.
ECHANGE PAR LES ISOTOPES DE L'OXYGENE, ENTRE LE SiO_2 NATUREL ET L'ACIDE CARBONIQUE (Obmen Izotopami Kisloroda Mezhdu Prirodnym SiO_2 i Uglekislotoi) tr. by Mihailovic. 3 Mar 62 [14]p. (Russian text included) 7 refs. CEA Trans. no. R 1575 (text in French).
Order from OTS or SLA $1.60 62-25083

Trans. in French of Akad[emiya] Nauk SSSR. Dokl[ady] 1954, v. 95, no. 6, p. 1223-1226.

DESCRIPTORS: *Geochemistry, *Isotopes, Oxygen, Minerals, *Silicon compounds, Oxides, *Carbonic acids, Exchange reactions.

Syromyatnikov, F. V.
MATERIALS ON THE STUDY OF CALCITE-WATER SYSTEMS, tr. by Esther S. Goldberg. [1961] 12p. 5 refs.
Order from OTS or SLA $1.60 UCRL Trans-500 (L)

Trans. of Akademiya Nauk SSSR. Institut [Geologicheskikh Nauk. Trudy] n.d., n.v., p. 221-229.

DESCRIPTORS: *Geochemistry, Minerals, *Calcite, Water, Chemical reactions, *Calcium compounds, Hydroxides, Carbon dioxide, Pressure vessels.

Physics of the Atmosphere

PHENOMENA IN THE UPPER ATMOSPHERE: REVIEW OF SOVIET LITERATURE. Monthly rept. no. 27 on Soviet Developments in Selected Problems in Astrophysics and Geophysics; AID Work Assignment no. 3. 31 Aug 62 [37]p. AID rept. 62-119; AD 285 112.
Order from OTS or SLA $3.60 62-33377

DESCRIPTORS: *Upper atmosphere, Solar energy, *Thermal radiation, Ionosphere, *Van Allen radiation belt, *Cosmic rays, *Atmospheric electricity, *Bibliography, Atmosphere.

Contents:
Solar radiation and the ionosphere
Van Allen belts and cosmic rays
Atmospheric electricity.
(See also 61-23508)

Bronshten, V. A. and Dagaev, M. M.
WORK ON ATMOSPHERIC OPTICS. 12 July 62 [21]p. (fig. omitted). FTD-TT-62-842; AD-283 885.
Order from OTS or SLA $2.60 62-32979

Unedited rough draft trans. of mono. Solnechnye Zatmeniya i Ikh Nablyudeniya [Solar Eclipses and Observations of Them] Moscow, 1960, p. 171-190.

DESCRIPTORS: Atmosphere, *Optics, *Sky brightness, Sun, Solar eclipse, Disks, Astronomy, Photometers.

Noskov, F. P.
THE ROTATION OF A POLARIZATION PLANE IN THE SURFACE LAYER OF THE ATMOSPHERE. 3 May 62 [6]p. 1 refs. FTD-TT-62-478.
Order from OTS or SLA $1.10 62-32292

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Geodeziya i Aerofotos"emka (USSR) 1961, no. 2, p. 65-68.

DESCRIPTORS: *Atmospherics, *Optics, Light, Polarization, Rotation.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 39. 1 Oct 62 [10]p. JPRS: 15506.
Order from OTS or SLA $1.10 62-33324

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1961, no. 11, p. 49-51; Znanie Sila (USSR) 1961 [v. 36] no. 12, p. 54; Promyshlennaya Energetika (USSR) 1962 [v. 17] no. 2, p. 41; and from Sovetskaya Litva (USSR) 1962, 9 Jan, p. 1.

DESCRIPTORS: *Industrial production, *Precision equipment, *Computers, Analog-to-digital converters, *Recording devices, Ferromagnetic materials, Magnetic recording systems, *Telemetering, Electronic recording systems.

Contents:
The "Kompleks" all-purpose analog-digital computer
The ELRU-2 electronic logical recording device, by P. N. Kopai-gora
A new high-speed ferromagnetic recording unit, by L. Lifshits
An advance in variable-current telemetering and the new ELRU-2 electronic recording and control unit.

Akishin, A. I.
RADIOACTIVE IONIZATION GAGE FOR A HIGH VACUUM. 7 Mar 60 [5]p. 4 refs. USASIA SC-59u/59; JPRS: R-440-D.
Order from OTS or SLA $1.10 62-32748

Trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1959, no. 2, p. 78-80.

DESCRIPTORS: *Precision equipment, *Ionization gages, *Vacuum apparatus, Electron multipliers, Preamplifiers.

Certain characteristics are presented of a radioactive ionization gage for measuring a high vacuum. High gage sensitivity is achieved through the application of an electron multiplier as a preamplifier of ionization current. (Author)

Antonovich, S. A.
DESIGN OF JET PUMPS (EJECTORS). 17 July 62 [19]p. 7 refs. FTD-TT-62-449; AD-283 900.
Order from OTS or SLA $1.60 62-32696

Unedited rough draft trans. of Energomashinostroenie (USSR) 1958 [v. 4] no. 9, p. 8-13.

DESCRIPTORS: *Jet pumps, Design, Nozzles, *Fluid dynamics, Fluid flow, Ejection, Equations.

Calculations are presented of transverse and longitudinal dimensions of ejections. Calculated parameters agree well with the results obtained experimentally.

Roitenberg, L. Ya.
ON THE THEORY OF A GYROSCOPIC SERVOSYSTEM WITH RANDOM NOISE. 20 July 62 [9]p. 5 refs. FTD-TT-62-770.
Order from OTS or SLA $1.10 62-32527

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 142, no. 5, p. 1050-1053.

DESCRIPTORS: *Telemetering, *Servo systems, *Gyroscopes, Signals, Noise, Error.

This paper considers the problem of optimal useful-signal reproduction by a gyroscopic servosystem using minimum root-mean-square error as the criterion. (Author)

Schneider, T. R.
SNOWDRIFTS AND WINTER ICE ON ROADS (Schneeverwehungen und Winterglätte) tr. by D. A. Sinclair. July 62, 200p. 98 refs. NRCC Technical trans. 1038.
Order from NRCC $10.00 NRCC C-4087

Trans. of Eidgenössisches Institut für Schnee- und Lawinenforschung. Interner Bericht (Switzerland) 1959, no. 302, 141p.

DESCRIPTORS: *Roads, *Climatic factors, *Snow, Drift, Snow removal, Snow roads, Wind tunnels, *Ice, Ice prevention, Ice fog.

Schrade, H.
NEW ZEISS INSTRUMENTS FOR SCIENCE, ENGINEERING, AND CULTURE. 30 June 60 [12]p. (figs. omitted). USASIA: SC-121c/60; JPRS: R-860D.
Order from OTS or SLA $1.60 60-31345

Trans. of die Technik (Germany) 1960 [v. 15] no. 3, Messcheff p. 205-208.

DESCRIPTORS: *Instrumentation, Design, Laboratory equipment, Photometers, Test equipment, Vacuum pumps, Aerial cameras, Leveling rods, Theodolites, Electrophoresis, Astronomical cameras, Cameras.

Aeronautical Engineering

Pipko, D.
FASTER THAN TIME. 28 May 62 [11]p. FTD-TT-62-702.
Order from OTS or SLA $1.60 62-32423

Unedited rough draft trans. of Znanie-Sila (USSR) 1961, [v. 36] no. 1, p. 19-21.

DESCRIPTORS: Aircraft, *Commercial planes, Supersonic flight.

Teslenko, Aleksei Ivanovich.
ICING OF AIRCRAFT GAS-TURBINE ENGINES.
8 Aug 62, 2p. AID rept. 62-116.
Order from OTS or SLA $1.10 62-32588

Abstract trans. of mono. Obledenenie Aviatsionnykh Gazoturbinnykh Dvigatelei, Moscow, 1961, 103p.

DESCRIPTORS: *Airplane engines, *Gas turbines, *Ice, Hazards, Countermeasures, Aviation safety.

Tupolev, L. A.
PECULARITIES OF AERODYNAMIC ARRANGEMENT OF SUBSONIC AIRCRAFT. 6 Aug 62 [13]p.
FTD-TT-62-613; AD-284 103.
Order from OTS or SLA $1.60 62-32939

Unedited rough draft trans. of Aviatsionnyi Tekhnologicheskii Institut, Moscow. Trudy (USSR) 1959, v. 42, p. 105-113.

DESCRIPTORS: *Aircraft, Design, *Aerodynamic configurations, Aerodynamics, Drag, *Swept back wings, Operation, Flight speeds.

Chemical Engineering

COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY: [SELECTED] TRANSLATIONS NO. 9. 8 Oct 62 [27]p. 4 refs. JPRS: 15590.
Order from OTS or SLA $2.60 62-33288

Trans. of Hua Hsüeh T'ung Pao (Chinese People's Republic) 1962, no. 1, p. 1-2, 39-44 and table of contents.

DESCRIPTORS: Chemical engineering, *China, Scientific research, *Polymers, *Temperature sensitive elements, Circuits.

Contents:
Welcoming the new victory in 1962, by Yün Tzu-ch'iang
Fully automatic instrument for determining temperature-shape change curves of polymers, by Wu Jen-chieh and others.

SOVIET DEVELOPMENTS IN PETROCHEMISTRY.
22 Oct 62 [27]p. JPRS: 15803.
Order from OTS or SLA $2.60 62-33525

Trans. of Neftekhimiya (USSR) 1962, v. 2, no. 3, p. 415-423.

DESCRIPTORS: *Petroleum industry, *Conferences, Oils, Fuels, Additives, Organic compounds.

Contents:
Review of the proceedings of the Scientific and Technical Conference on Additives to Oils and Fuels [held in Leningrad] by E. S. Shchepeleva and V. V. Sher
Conference on High Molecular Compounds Devoted to Monomers (no. 12) Baku, 3-7 Apr 62, by M. A. Dalin and T. I. Chernysheva.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL MACHINE BUILDING NO. 8. 15 Oct 62 [26]p. JPRS: 15689.
Order from OTS or SLA $2.60 62-33442

Trans. of Khimicheskoe Mashinostroenie (USSR) 1962 [v. 4] no. 4, p. 1-4 and 6 (excerpts), 43-45; Mashinostroenie (USSR) 1962, no. 1, p. 92-93 (excerpts).

DESCRIPTORS: *Industrial production, Chemical engineering, *Machinery, Industrial plants, Vacuum apparatus, *Centrifuges, Separation, *Drying ovens, *Furnaces, *Pumps, *Refrigeration systems, Refrigerants, Lithium, Bromides.

Contents:
March plenum of the central committee of the CPSU and the tasks of chemical machine building, by V. B. Nikolaev and A. V. Pleikin
New machines, apparatus and instruments
High pressure pumps, types NPD-400M and NPS-400M, by P. T. Golovko and M. Z. Leshak
Lithium-bromide absorption refrigerating machine, by L. M. Rozenfeld and M. S. Karnaukh

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 32. 12 Sep 62 [37]p. JPRS: 15246.
Order from OTS or SLA $3.60 62-33010

Trans. of Referativnyi Zhurnal. Ekonomika Promyshlennosti (USSR) 1962, no. 5, p. 100-102; no. 6, p. 109; and 10 selected articles from 7 Russian newspapers.

DESCRIPTORS: *Chemical industry, Industrial production, Sulfuric acid, Production, Economics, Phosphates, Herbicides, Catalysis, Plastic industry, Glass textiles, Conveyors, Melamine, Chemical engineering.

Contents:
Economic evaluation of the utilization of different types of raw materials in the production of sulfuric acid (discussion) abstract 5G 118
Economic effectiveness of capital investments in the chemical industry, by I. D. Fotinich, abstract 6G 135
Crash construction of the Sumgait superphosphate plant, by B. Mishne
Lagging production of herbicides at the Ufa chemical plant, by Munir Gareev
High speed chemical catalysis, by V. A. Roiter
Growth of the Vil'nyus plastics plant, by S. Kuz'menko
Lagging construction of the Valmiera glass fiber plant, by A. Klein and M. Kerezhin
Malfunctioning of the main conveyor at the Kauchuk plant
The main conveyor at the Kauchuk plant may come to a stop
Taking care of the national wealth at the Kirovakan chemical combine, by S. Abramyan
Melamine; production and uses, by P. Kazaryan
Crash rates of work for a crash construction project, by I. Tomchin.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 34. 24 Oct 62 [36]p. JPRS: 15865.
Order from OTS or SLA $3.60 62-33601

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 8, p. 80-82; Kommunist Belorussii (USSR) 1962 [v. 34] no. 7, p. 52-55; Ekonomicheskaya Gazeta (USSR) 1962, no. 33[54] p. 15; Narodnoe Khozyaistvo Uzbekistana (USSR) 1962 [v. 4] no. 7, p. 67-74, 81-83; and from Stroitel'naya Gazeta (USSR) 1962, 22 Aug, p. 2.

DESCRIPTORS: *Chemical industry, Industry, Industrial production, Roofs, Materials, Rubber, Hydrolysis, Economics, Conferences, Chemical engineering.

Contents:
Ruberoid "RMP": an excellent material, by M. Braslavskii and A. Marmer
Conference on Problems of Rubberizing of Equipment, May 62, by P. I. Bogatyrev
Future developments of chemical industry in Belorussia, by A. Tikhonov
Calculation of resources, by I. Manvelov
Expand operative independence and initiative of enterprises, by V. Erofeev
Conference of Workers of Scientific Research and Planning-Design Organizations and Enterprises of the Hydrolysis Industry of the RSFSR, Kazakhstan, and Uzbekistan, in Tashkent, 24-26 May 62, by R. Ivanov.

Andres, Louis, Iragne, Jean, and Berquin, Yves.
EFFECT OF ADDING CERTAIN MINERAL SALTS ON THE PRECIPITATION OF CALCIUM PHOSPHATE, tr. by Bertha P. Klenova. 28 Oct 53, 3p. TVA 3243.
Order from OTS or SLA $1.10 62-32252

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1952, v. 234, p. 2285-2287 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: *Calcium compounds, *Phosphates, Precipitation, Minerals, Salts, *Ammonium compounds, Citrates, *Fertilizers.

By addition of small quantities of certain mineral salts it is possible to attain pH 9.5 without decreasing the solubility in ammonium citrate of the precipitated calcium phosphate. This is of considerable importance to the phosphate fertilizer industry. (Author)

Borodina, V. A.
IMPROVEMENTS IN THE PROCESS OF CONCENTRATING ORES OF THE TEKELI DEPOSIT. July 62 [16]p. 2 refs. RTS 2078.
Order from OTS or SLA $1.60 62-25462

Trans. of Akad[emiya] Nauk K[azakhskoi] SSR [Alma-Ata]. Institut Metallurgii i Obogashcheniya. Trudy, 1960, v. 3, p. 76-84.

DESCRIPTORS: *Ores, *Deposits, Flotation, Lead, Zinc, Pyrites, Recovery, Separation, Sulfides, Processing, Manufacturing methods.

The complex constitution of the Tekeli ores, in which the constituents of the ore exhibit a very close and disperse dissemination, results in their falling into the category of ores which are difficult to concentrate. The scheme and conditions that have been developed for the selective flotation of the collective concentrate ensure the recovery of high-grade lead, zinc and pyrite concentrates, with a satisfactory degree of extraction, and with the isolation of a lead-zinc intermediate product as a separate product. (Author)

Patrushev, D. A.
SELECTION OF OPTIMUM ELECTRICAL CONDITIONS FOR PHOSPHORUS FURNACE, tr. by Bertha P. Klenova. 27 July 61, 13p. 14 refs. TVA-3930.
Order from OTS or SLA $1.60 62-24459

Trans. of Ural'[skii] Nauch[no]-Issledovatel'[skii] Khim[icheskii] Inst[itut]. Trudy (USSR) 1957, v. 5, p. 252-262.

DESCRIPTORS: Electric furnaces, *Phosphorus, Ores, Reduction, *Rotary furnaces, Coke, Carbon, *Voltage, Particles, Gases, Purification, *Electric filters.

The best indices relating to reduction of ore, specific energy consumption, and capacity coefficient are found in stationary furnaces in which the criterion of the electric field ρ EP, is 6.7 to 9.4, and the geometric parameter is B:D = 2.5-2.8. The single rotary phosphorus furnace described in the literature shows the value of ρ EP = 10.9. Studies of a number of domestic and foreign phosphorus furnaces showed that the best indices are found in furnaces which are fed by a high resistance charge, a coke 3 to 16 mm. in size, and an amount of carbon 102% of theoretical. According to practical data, the current density for self-baking electrodes in phosphorus furnaces should be not less than 3 amp/sq cm. When the voltage is increased, the time the charge remains in the furnace decreases. At high voltages the furnace is more sensitive to any variations in the composition of the charge. For this reason the preliminary condition for change-over to higher voltage steps is a constant composition of the charge and a more thorough preparation of its components. With increase in voltage, the entrainment of finely dispersed particles increases and so does the amount of dust in the gases. Therefore, it is imperative to install electrofilters for gas purification when operating at high voltages. When gas purification is available, a larger amount of reducing agent in the charge can be used and this increases both the degree of reduction and the total yield of phosphorus from the ore. (Author)

Fukumoto, Osamu.
A CONTINUOUS MANUFACTURING PROCESS OF ε-CAPROLACTAM. Oct 62, 5p.
Order from SA $15.00 SA Code-P46

Trans. of published Japanese patent 24069/1961, 23 Dec 61, cl. 16-B-65 (16-E-5), appl. no. 6709/1958, 13 Mar 58, by Toyo Rayon Co.

DESCRIPTORS: *Organic compounds, Manufacturing methods, Sulfuric acid, *Cyclohexanones, *Lactams.

Furukawa, Masahide and Mine, Tatsuo.
TREATING METHOD OF LIQUID AFTER SUPERATMOSPHERIC LIQUID PHASE OXIDATION OF CYCLOHEXANE. Oct 62, 4p.
Order from SA $15.00 SA Code-P50

Trans. of published Japanese patent 10614/1960, 5 Aug 60, cl. 16-C-8, appl. no. 21579/1957, 2 Sep 57, by Kanto Denka Kogyo Co.

DESCRIPTORS: *Cyclohexanes, Oxidation, Liquids, Manufacturing methods.

Kudo, Taiseki, Oshima, Keiichi, and Tamura, Takabumi.
MANUFACTURING PROCESS OF ACETYLENE FROM HYDROCARBON. Oct 62, 7p.
Order from SA $15.00 SA Code-P43

Trans. of published Japanese patent 24062/1961, 23 Dec 61, cl. 16-B-122, appl. no. 27203/1958, 24 Sep 58, by Institute of Industrial Development Research.

DESCRIPTORS: *Acetylenes, Manufacturing methods, *Hydrocarbons, Pyrolysis, Refractory materials, Catalysts, Vanadium, Niobium, Tantalium.

Mukaiyama, Mikio.
MANUFACTURING PROCESS OF CALCIUM CARBIDE. Oct 62, 4p.
Order from SA $15.00 SA Code-P48

Trans. of published Japanese patent 279/1951, 30 Jan 51 cl. 15-N-21, appl. no. 11557/1948, 29 Dec 48.

DESCRIPTORS: *Calcium compounds, *Carbides, Manufacturing methods, Fuzed materials, Slags, Catalysts, Sodium compounds, Carbonates.

Niwa, Akashi, Kikuchi, Yoshiaki, and Kamimura, Shigeo.
MANUFACTURING PROCESS OF OXYGEN-CONTAINING ORGANIC COMPOUNDS. Oct 62, 10p.
Order from SA $18.00 SA Code-P45

Trans. of published Japanese patent 5224/1956, 30 June 56, cl. 16-B-5 (16-B-4), appl. no. 23390/1953, 19 Dec 53, by Mitsubishi Kasei Kogyo Co.

DESCRIPTORS: *Organic compounds, Oxygen compounds, Manufacturing methods, *Cobalt compounds, Carbon compounds, Monoxides, Hydrogenation.

Pavlov, S., Drozdov, I. and others.
PRODUCTION PROBLEMS AT THE SUMY MACHINE BUILDING PLANT. USSR Industrial Development: Soviet Chemical Machine Building no. 9. 16 Oct 62 [7]p. JPRS: 15739.
Order from OTS or SLA $1.10 62-33423

Partial trans. (excerpts) from Izvestiya (USSR) 1962, 28 June, p. 3.

DESCRIPTORS: *Industrial production, Chemical engineering, *Machinery, *Industrial plants.

Roznatsev, E. G. and Berger, I. I.
REMOVAL OF SULPHUR COMPOUNDS FROM HYDROCARBON GASES. [1962] [4]p. 8 refs. BM Trans. 1663.
Order from OTS or SLA $1.10 62-25122

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1961, no. 5, p. 339-340.

DESCRIPTORS: *Gases, *Hydrocarbons, *Sulfur compounds, *Separation.

Magnesium oxide with an aluminum oxide base can be used for fine clean up of the ethylene fraction and for the removal of sulfur impurities from other industrial gases.

Tagawa, Hiroaki and Nakajima, Hitoshi.
GRAPHITIZATION AND WET OXIDIZABILITY OF HEAT-TREATED PETROLEUM COKE. Rept. 2 of Studies on the Production and Properties of Carbides. Oct 62, 15p. 13 refs.
Order from SA $18.00 SA Code-G78

Trans. of Kogyo Kagaku Zasshi (Japan) 1960, v. 63, no. 10, p. 1690-1694.

DESCRIPTORS: *Carbides, Production, *Coke, *Petroleum, Heat treatment, Oxidation, *Graphite, Crystallization, X-ray diffraction analysis, Towers (Chemistry)

Yamakoshi, Tadao, Amatsu, Hideo and others.
MANUFACTURING PROCESS OF ALKALI CHLORITE. Oct 62, 5p.
Order from SA $15.00 SA Code-P44

Trans. of published Japanese patent 2426/1954, 4 May 54, cl. 15-E-31, appl. no. 14676/1952, 16 Sep 52, by Nissan Chemical Industrial Co.

DESCRIPTORS: *Bleaching agents, *Alkali metal compounds, *Chlorites, Manufacturing methods, Chlorine compounds, Dioxides, Organic solvents.

Electrical and Electronic Engineering

COMMEMORATING FIVE YEARS OF CZECHOSLOVAK TELEVISION. 2 Aug 60 [5]p. USASIA: H-6809b; JPRS: R-1033-D.
Order from OTS or SLA $1.10 60-31507

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 38, p. 4.

DESCRIPTORS: *Communication systems, *Television communication systems, Television transmitters, *Czechoslovakia.

COSMIC RETRANSMISSION STATION. 1 Aug 60 [2]p. USASIA: H-6807; JPRS: R-1005-D.
Order from OTS or SLA $1.10 60-21488

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 32, p. 5.

DESCRIPTORS: Television stations, Power supplies, *Satellite vehicles, *Communication systems.

DECREE ON THE ESTABLISHMENT OF A SECTION FOR THE CONSTRUCTION OF DIRECTIONAL RADIO-TELEPHONE-TELEGRAPHY ULTRASHORT WAVE COMMUNICATIONS ON THE ZAGREB-LJUBLJANA-RIJEKA-SPLIT LINK. 7 July 60 [5]p. USASIA: SC-257b/60; JPRS: R-1059-D.
Order from OTS or SLA $1.10 60-31649

Trans. of PTT Vesnik (Yugoslavia) 1959 [v. 67] nos. 22/23, p. 256-257.

DESCRIPTORS: *Communication systems, *Microwave communication systems, *Telephone communication systems, *Radio communication systems, *Telegraph systems, Construction, *Yugoslavia.

DECREE ON THE ESTABLISHMENT OF A SECTION FOR THE INSTALLATION AND ASSEMBLY OF A COAXIAL SYSTEM ON THE BELGRADE-ZAGREB AND BELGRADE-NOVI SAD LINES. 7 July 60 [5]p. USASIA: SC-257c/60; JPRS: R-1070-D
Order from OTS or SLA $1.10 60-31650

Trans. of PTT Vesnik (Yugoslavia) 1959 [v. 67] nos. 22/23, p. 257-258.

DESCRIPTORS: *Communication systems, *Coaxial cables, Construction, *Yugoslavia.

FROM EVERYWHERE IN BRIEF; FROM POLAND. 2 Aug 60 [3]p. USASIA: H-6818a; JPRS: R-1045-D.
Order from OTS or SLA $1.10 60-31519

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 10, p. 4.

DESCRIPTORS: *Television stations, *Telephone cables, *Poland.

FROM EVERYWHERE IN BRIEF: FROM POLAND. 2 Aug 60 [4]p. USASIA: H-6822b; JPRS: R-1048-D.
Order from OTS or SLA $1.10 60-31522

Trans. of Lacznosc (Poland) 1960 [v. 11] no. 1, p. 5.

DESCRIPTORS: *Communication systems, *Radiotelephones, *Television, Motion pictures, *Semiconductors, *Poland.

FROM EVERYWHERE IN BRIEF; FROM POLAND. 1 Aug 60 [3]p. USASIA: H-6823; JPRS: R-1012-D.
Order from OTS or SLA $1.10 60-31494

Trans. of Lacznosc (Poland) 1960 [v. 11] no. 4, p. 5.

DESCRIPTORS: *Television, Production, *Ultraviolet radiation, Radiation effects, *Poland.

FROM EVERYWHERE IN BRIEF; FROM POLAND. 1 Aug 60 [3]p. USASIA: H-6824; JPRS: R-1013-D.
Order from OTS or SLA $1.10 60-31495

Trans. from Lacznosc (Poland) 1960 [v. 11] no. 7, p. 5.

DESCRIPTORS: *Television stations, *Poland.

FROM PTERA TO ZEBRA; NEW DEVELOPMENT IN ELECTRIC COMPUTERS. 10 Aug 60 [4]p. USASIA:-H-6736a/60; JPRS: R-1066-D.
Order from OTS or SLA $1.10 60-31646

Trans. of PTT Bedrijfsbanden (Netherlands) 1959, v. 20, no. 9, p. 268-269.

DESCRIPTORS: *Digital computers, Computers, *Netherlands.

FROM WARSAW RADIO STATIONS; THOUGHTS FROM UNDER FEEDERS. 29 July 60 [3]p. USASIA H-6817; JPRS: R-1005-D.
Order from OTS or SLA $1.10 60-31482

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 5, p. 5.

DESCRIPTORS: *Communication systems, *Poland, *Radio stations, *Commutators, Antennas.

GOOD NEWS ABOUT TELEPHONES IN LUBLIN. 2 Aug 60 [3]p. USASIA: H-6818b; JPRS: R-1046-D.
Order from OTS or SLA $1.10 60-31520

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 10, p. 6.

DESCRIPTORS: *Communication systems, *Telephones, *Poland.

GUIDE TO DEVELOPMENT IN COMMUNICATIONS. 2 Aug 60 [4]p. USASIA: H-6814e; JPRS: R-1041-D.
Order from OTS or SLA $1.10 60-31515

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 51/52, p. 12.

DESCRIPTORS: *Communication systems, Telephones, Postal systems, *Poland, Economics.

NEW TELEPHONES FOR GREATER WARSAW. 2 Aug 60 [3]p. USASIA: H-6813a; JPRS: R-1035-D.
Order from OTS or SLA $1.10 60-31509

Trans. from Lacznosc (Poland) 1958 [v. 9] no. 49.

DESCRIPTORS: *Telephones, *Poland, *Communication systems.

PROSPECTS IN POLISH COMMUNICATIONS.
1 Aug 60 [5]p. USASIA: H-6811; JPRS: R-1007-D.
Order from OTS or SLA $1.10 60-31489

Trans. from Lacznosc (Poland) 1958 [v. 9] no. 41.

DESCRIPTORS: *Postal systems, *Telephone communication systems, Communication systems, *Poland.

A RADAR CHAIN ALONG THE NEW WATERWAY.
19 Oct 60 [10]p. USASIA: H-6732; JPRS: R-1198-D.
Order from OTS or SLA $1.10 60-31856

Trans. of PTT Bedrijfsbanden (Netherlands) 1957, v. 18, no. 3, p. 74-77.

DESCRIPTORS: *Communication systems, *Radar stations, Radar navigation, Radiotelephones, *Inland waterways, *Netherlands.

RADIO TELEPHONE COMMUNICATION WITH SHIPS ON THE RHINE. 10 Aug 60 [3]p. USASIA: H-6736b/60; JPRS: R-1067-D.
Order from OTS or SLA $1.10 60-31647

Trans. of PTT Bedrijfsbanden (Netherlands) 1959, v. 20, no. 9, p. 283.

DESCRIPTORS: *Communication systems, *Radiotelephones, Ships, *Netherlands, Germany.

SEVERAL DATES. 2 Aug 60 [5]p. USASIA: H-6814a; JPRS: R-1037-D.
Order from OTS or SLA $1.10 60-31511

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 51/52, p. 1.

DESCRIPTORS: *Conferences, *Communication systems, *Poland.

TASKS OF THE TELECOMMUNICATIONS SERVICE.
2 Aug 60 [7]p. USASIA: H-6814d; JPRS: R-1040-D.
Order from OTS or SLA $1.10 60-31514

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 51/52, p. 5.

DESCRIPTORS: *Communication systems, *Telephone communication systems, *Poland, Design, Economics.

TELECOMMUNICATIONS ENGINEERING IN CHINA.
2 Aug 60 [5]p. USASIA: H-6816b; JPRS: R-1043-D.
Order from OTS or SLA $1.10 60-31517

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 4, p. 4.

DESCRIPTORS: *Communication systems, *Telegraph systems, *Telephone communication systems, *Television communication systems, *China, Engineering.

TELECOMMUNICATIONS IN LOWER SILESIA KEEP PACE WITH DEVELOPMENTS IN WESTERN TERRITORIES. 2 Aug 60 [5]p. USASIA: H-6828a; JPRS: R-1051-D.
Order from OTS or SLA $1.10 60-31525

Trans. of Lacznosc (Poland) 1960 [v. 11] no. 13, p. 1.

DESCRIPTORS: *Communication systems, *Telephone communication systems, Poland, Maintenance.

TELEPHONE PERSPECTIVES IN LOWER SILESIA.
2 Aug 60 [3]p. USASIA: H-6810; JPRS: R-1034-D.
Order from OTS or SLA $1.10 60-31508

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 39, p. 3.

DESCRIPTORS: *Communication systems, *Telephone communication systems, Poland, Construction.

USSR COMMUNICATIONS: SELECTED TRANSLATIONS (7). 26 May 61, 17p. JPRS: 4652.
Order from OTS $0.50 61-31464

Trans. from Elektricheskii Stantsii (USSR) 1961 [v. 32] no. 2 (1 article); of Tekhnika Kino i Televideniya (USSR) 1961 [v. 5] no. 3, p. 1-3; Radio, Moscow (USSR) 1961, no. 3, p. 10, 12-13; and 11 short selected articles from Russian newspapers.

DESCRIPTORS: *Communication systems, *Transmission lines, *Radio communication systems, Power supplies, *Television communication systems, Television receivers, *Radio relay systems, Coaxial cables.

Contents:
Introduction of new means of communication and equipment
Certain technical principles of planning a television network, by A. Badalov
Television in Azerbaidzhan
A man bought a TV set
Selected short articles.

USSR ELECTRIC POWER, TRANSLATIONS NO. 22.
2 Oct 62 [117]p. JPRS: 15529.
Order from OTS or SLA $9.60 62-33332

Trans. of Gidrotekhnicheskoe Stroitel'stvo (USSR) 1962 [v. 32] no. 3, p. 33-40; no. 4, p. 45-46 (excerpts) no. 5, p. 13-16, 40; Teploenergetika (USSR) 1962 [v. 9] no. 4, p. 48-57; no. 6, p. 79-82; Elektrichestvo (USSR) 1962, no. 5, p. 20-27; Promyshlennaya Energetika (USSR) 1962 [v. 17] no. 5, p. 1-5; Ekonomicheskaya Gazeta (USSR) 1962, no. 22[43] p. 11; Gorodskoe Khozyaistvo Moskvy (USSR) 1962 [v. 36] no. 5, p. 41-42; Narodnoe Khozyaistvo Uzbekistana (USSR) 1962 [v. 4] no. /, p. 68-69; and from Kazakhstanskaya Pravda (USSR) 1962, 29 May, p. 3; Pravda, Moscow (USSR) 1962, 17 June, p. 2.

DESCRIPTORS: *Electric power production, *Power plants, Tides, Construction, *Hydraulic power systems, *Steam turbines, *Heating plants, *Thermoelectricity, Economics, Procurement.

Contents:
Experimental tidal electric power station, by L. B. Bernshtein
The chronicle of construction of hydraulic power stations in USSR from Dec 60 to Nov 61, by V. P. Repkin
At the hydraulic construction sites
Efficiency of district-heating steam turbines, by B. P. Taranov
Raising the efficiency of district heating, by M. G. Khosid
On the selection of a rational structure of generating capacities in electric power systems, by L. O. Saatchyan and E. I. Khainson
At the hydraulic construction sites
Plans for the Chirkeiskaya Ges on the Sulak River, by I. P. Aleshin
At the hydraulic construction sites
Economic efficiency of hydroelectric power stations and thermal electric power stations being replaced, by A. A. Beschinskii and M. P. Fel'dman
On certain problems of the development of industrial power engineering in the planned future
Equipment suppliers create obstacles, by V. Markin
Stages on the Irtysh River, by M. Inyushin
On saving electric power in urban economics, by E. Ya. Kubrik
The modern electric power base of Karakalpakiya, by B. Lychagin
The power giant on the Yenisei River, by S. Agalakov.

Bunin, D. A., Kolokol'nikov, A. N. and others.
GENERAL INFORMATION ON RAILROAD TRANSPORT COMMUNICATION FACILITIES [AND] PLANNING OF RADIORELAY LINES. [1962] [62]p. Trans. Log no. 1280-Z.
Order from OTS or SLA $6.60 62-19270

Trans. of mono. Radioreleinaya Svyaz'na Zheleznodorozhnom Transporte (Radiorelay Communication in Railroad Transport) Moscow, 1961, chaps. 1 and 5.

DESCRIPTORS: *Radio relay systems, *Transmission lines, *Railroads, Transportation, Communication systems, *Radio communication systems, Telegraph systems, Telephone communication systems, Communication equipment, *Radio relay stations.

The book outlines the theoretical fundamentals, operational principle, planning and utilization of radiorelay lines and also describes the design, block-diagrams and technical-economic data of radiorelay equipment. The book is to meet the needs of a broad area of engineering-technical workers, engaged in the planning, construction and operation of communication facilities, and of students of institutes, and has been approved by the Chief Directorate of institutes of Learning of the Ministry of Transportation as a text for students of railroad transport technical schools. (Soviet publisher's note)

Czapska, Jadwiga.
AN ABUNDANT PROGRAM. 2 Aug 60 [7]p. USASIA: H-6814c; JPRS: R-1039-D.
Order from OTS or SLA $1.10 60-31513

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 51/52, p. 4.

DESCRIPTORS: *Labor, Production, Costs, Labor unions, Housing, Industry, Industrial medicine, *Poland, Economics, *Communication systems.

Czerwinski, Adrian.
HOW COMMUNICATIONS LOOK AT SPITSBERGEN. 2 Aug 60 [6]p. 1 ref. USASIA: H-6809a; JPRS: R-1032-D.
Order from OTS or SLA $1.10 60-31506

Trans. from Lacznosc (Poland) 1958 [v. 9] no. 38.

DESCRIPTORS: *Communication systems, *Radio communication systems, *Postal systems, *Norway.

Fastovskii, I. A. and Furmanov, I. M.
STANDARD INSTRUMENTS FOR MEASURING INDUSTRIAL RADIO INTERFERENCES. 24 Mar 60 [121]p. 13 refs. USASIA: SC 40/60; JPRS: R495-D.
Order from OTS or SLA $10.10 62-32793

Trans. of mono. Tipovye Pribory dlya Izmereniya Industrial'nykh Radiopomekh, Leningrad, 1959, p. 4-120.

DESCRIPTORS: *Industrial equipment, *Radio interference, Calibration, Antennas, Voltage dividers, Circuits, Amplifiers, Detectors, Voltmeters, *Electrical equipment, Design, Construction, Operation, Instrumentation.

This pamphlet examines the principle of operation, circuit characteristics and the construction of standard instruments for the measurement of radio interferences, as well as the technical characteristics of the instruments used. (Author)

Fateev, I. N.
RESULTS AND PROSPECTS OF DEVELOPMENT OF SOVIET HYDROENERGETICS. 20 Mar 62 [46]p. (17 figs. omitted). JPRS: 13071.
Order from OTS or SLA $4.60 62-23611

Trans. of Elektroenergetika (USSR) 1960 [v. 2] p. 191-214.

DESCRIPTORS: *Hydroelectric power systems, *Electric power production, Electricity, Transmission lines, Direct current.

Fedunin, G. A. and others.
TECHNICAL HANDBOOK ON ELECTRICAL COMMUNICATION. VOL. VIII: RADIO COMMUNICATION. 24 Aug 62 [722]p. F-TS-9992; AD-284 108.
Order from OTS or SLA $28.50 62-33003

Unedited rough draft trans. of mono. Inzhenerno-Tekhnicheskii Spravochnik po Elektrosvyazi. v. 8: Radiosvyaz', Moscow, 1958, 500p.

DESCRIPTORS: *Radio communication systems, *Telegraph systems, *Radiotelephones, Oscillations, Circuits, *Communication equipment, Radio transmitters, Oscillographs, Generators, Radiofrequency attenuators, Frequency meters, Monitors, *Antennas, Antenna radiation patterns, *Wave transmission, Ionosphere.

Chapters are devoted to: (1) Principles of organization of radio communications and radio-communication functions; (2) Structure and composition of radio-communications systems; (3) Basic parameters characterizing a radio-communications system; (4) Terminal and intermediate telegraph equipment employed in radio links; (5) Standards for the parameters of the individual elements of a radio-link circuit and basic standards of radio-central office design; (6) Methods and techniques for measurement and monitoring of the performance of a radio circuit; (7) Basic technical data for measurement and monitoring equipment; (8) Electrical parameters characterizing transmitting and receiving antennas; (9) Weakly directive transmitting and receiving antennas (balanced horizontal dipoles); (10) Rhombic antennas; (11) Traveling-wave antennas; (12) Transmission lines for transmitting and receiving antennas and exponential transmission-line transformers; (13) Tuning and testing of antennas; (14) Antenna construction; (15) General considerations on the propagation of radio waves; (16) The propagation of surface radio waves; (17) The ionosphere; (18) The propagation of short radio waves; (19) Ionospheric propagation of medium wavelengths; (20) The propagation of intermediate waves; (21) Long-wave propagation; (22) Ionospheric propagation of metric waves; (23) Long-distance ultrashort-wave propagation by way of the troposphere; and (24) Distribution of the radio-frequency spectrum among types of service.

Ilyukovich, A. M.
COMPENSATION OF THE TEMPERATURE ERROR OF INDUCTION METERS AND WATTMETERS BY THERMISTORS. [1962] [10]p. 5 refs. [DSIR] NLL-M. 3326.
Order from OTS OR SLA $1.10 62-23922

Trans. from Elektrichestvo (USSR) 1960, no. 8 [p. 76-78].

DESCRIPTORS: *Thermistors, *Wattmeters, Power meters, Meters, Temperature, Resistors, Errors, Electricity, Thermoelectricity.

Krasovskii, A. A.
THE DYNAMICS OF CONTINOUS OPTIMALIZING CONTROL SYSTEMS IN THE PRESENCE OF RANDOM SCANNING SIGNALS. 15 Mar 62 [17]p. 6 refs. JPRS: 12960.
Order from OTS or SLA $1.60 62-23432

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1960, no. 3, p. 37-45.

DESCRIPTORS: *Control systems, Dynamics, Synthesis, Oscillation, Signals.

Theory and numerical calculations are presented indicating that random scanning signals can be successfully used in continuous optimalizing control systems. (See also 61-27384, 62-14013)

Leman, Maria.
ACCOMPLISHMENT OF OUR ENGINEERS AND TECHNICIANS; NEW LONG DISTANCE EXCHANGE AT LODZ. 2 Aug 60 [9]p. USASIA: H-6822a; JPRS: R-1047-D.
Order from OTS or SLA $1.10 60-31521

Trans. of Lacznosc (Poland) 1960 [v. 11] no. 1, p. 3.

DESCRIPTORS: *Communication systems, *Telephone communication systems, Poland, Design.

Leman, Maria.
DISCUSSION OF PLANS FOR LONG DISTANCE TELECOMMUNICATIONS. 1 Aug 60 [5]p. USASIA: H-6815; JPRS: R-1009-D.
Order from OTS or SLA $1.10 60-31491

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 3, p. 3.

DESCRIPTORS: *Communication systems, *Poland, *Telephone communication systems, *Telegraph systems, Conferences.

Leman, Maria.
MODERN TECHNOLOGY IN TELECOMMUNICATIONS. 2 Aug 60 [4]p. USASIA: H-6813b; JPRS: R-1036-D.
Order from OTS or SLA $1.10 60-31510

Trans. from Lacznosc (Poland) 1958 [v. 9] no. 49.

DESCRIPTORS: *Telephone communication systems, *Communication systems, Automation, *Poland.

Lutz, H.
DESIGN AND CONSTRUCTION OF 400 KV TRANSFORMERS. 19 Jan 62, 14p. (13 figs. 2 tables 13 refs. omitted).
Order from SLA $1.60 62-10966

Trans. of [Schweizerischer Elektrotechnischer Verein. Bulletin] 1961, v. 52, 18 Nov, p. 23ff.

DESCRIPTORS: Electrical equipment, *Transformers, Electric insulation, Electrical properties, Mechanical properties, Installation.

A general survey is presented of the requirements which must be met by transformers when going to 400 KV line voltage, especially as applicable to Swiss conditions. Basic problems of insulation as well as design possibilities are discussed. A special chapter deals with regulating transformers which usually can not be built in conventional manner at these voltages. Also, a few questions regarding transportation and installation are mentioned briefly. (Author)

Model', A. M.
THE RHOMBIC ANTENNA. 25 Mar 60 [36]p.
USASIA: SC-70/60; JPRS: R-520-D.
Order from OTS or SLA $3.60 62-32794

Trans. of mono. Inzhenerno-Tekhnicheskii Spravochnik po Elektrosvyazi (Engineering-Technical Handbook for Electrical Communications) VIII, sect. II, Moscow, 1958, p. 245-263 and 325-332.

DESCRIPTORS: Broadband, *Antennas, *Direction finding, Design, Antenna radiation patterns, Attenuation, Electrical properties, Construction, Power supplies.

Morgulis, N. D. and Marchenko, R. I.
CERTAIN IONIZATION METHODS OF MEASURING VERY HIGH VACUUM. 22 Mar 62 [7]p. (4 Eng. refs. omitted) 2 refs. FTD-TT-62-241.
Order from OTS or SLA $1.10 62-24029

Unedited rough draft trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1960, no. 5, p. 106-108.

DESCRIPTORS: *Vacuum apparatus, Pressure gages, *Ionization gages, Ionic current, Thermionic emission, Cold cathode tubes.

Moskwa, Zygmunt.
AT MID-TERM OF THE YEARS 1959-60. 2 Aug 60 [10]p. USASIA: H-6821a; JPRS: R-1053-D.
Order from OTS or SLA $1.10 60-31527

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 51/52, p. 1-2.

DESCRIPTORS: *Communication systems, Communication equipment, Postal systems, Personnel, Labor, Production, *Economics, *Poland.

Moskwa, Zygmunt.
ON THE THRESHOLD OF THE NEW YEAR, 1959. 2 Aug 60 [11]p. USASIA: H-6814b; JPRS: R-1038-D.
Order from OTS or SLA $1.60 60-31512

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 51/52, p. 2.

DESCRIPTORS: *Communication systems, Communication equipment, *Poland, Postal systems, Economics.

Moskwa, Zygmunt.
REPORT BY MINISTER Z. MOSKWA. 1 Aug 60 [11]p. USASIA: H-6812; JPRS: R-1008-D.
Order from OTS or SLA $1.60 60-31490

Trans. of Lacznosc (Poland) 1958 [v. 9] no. 44, p. 2.

DESCRIPTORS: *Postal systems, *Telephone communication systems, *Communication systems, *Poland.

Nikitenko, V. I. and Pegoev, A. N.
CONVERSION OF HARMONIC SIGNALS TO SHORT DURATION PULSES. 7 Mar 60 [7]p. 4 refs.
USASIA SC-59bb/59; JPRS: R-447-D.
Order from OTS or SLA $1.10 62-32741

Trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1959, no. 2, p. 108-110.

DESCRIPTORS: *Time interval counters, Harmonic analyzers, Signals, Electromagnetic pulses, Oscillograms, Circuits.

The conversion of harmonic signals to short-period pulses is examined. Experimental results of conversion by methods which permit a considerable increase in the accuracy of the conversion, are given. The error of conversion is less than 10^{-4} of the period of the initial harmonic signal twice during change of its amplitude. Oscillograms illustrating the circuit operation are presented. (Author)

Peregudov, V. V.
THE PROSPECTS AND THE POSSIBILITIES OF USING ALUMINUM IN ELECTRIC MACHINES. 4 June 62 [8]p. 4 refs. FTD-TT-62-676.
Order from OTS or SLA $1.10 62-32422

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Elektromekhanika (USSR) 1961 [v. 4] no. 1, p. 121-124.

DESCRIPTORS: *Electric machinery, *Aluminum, Electric motors, Turbines, Generators, Electrical equipment, Electrical industry, Substitutes, Copper, Industrial production, Electric power production, Hydroelectric power systems, Transformers, Coils, Wire winding machines, *Aluminum wire, Standards, Electric insulation, Dielectrics.

Pivovarov, Yu. L. and Tsodikov, Yu. M.
A WIRE FREQUENCY RESONATOR FOR TELEMETERING. 13 Oct 61 [11]p. 5 refs. FTD-TT-61-122; AD-265 815.
Order from OTS or SLA $1.60 62-23379

Trans. of Avtomatika i Telemekhanika (USSR) 1961, v. 21, no. 4, p. 539-542.

DESCRIPTORS: *Telemeter systems, Resonance, Test equipment, Test methods, Telemetering data, Industrial research, Frequency meters, Wire, Vibration, *Digital systems, *Transducers.

The operation of a wire frequency resonator for industrial telemetering is described, and the basic calculation relationships are given. The results of experimental investigation and the circuit of the wire resonator are given. (Author)

Prouza, Ludvik.
TROUBLE INCIDENCE IN ELECTRONIC EQUIPMENT AND ITS PROBABILITY ESTIMATES (Poruchovost Elektronickych Zarizeni a Jeji Pravdepodobnostni Odhady). 1 June 61, 9p. (fig. omitted) 34 refs. H-8968; JPRS (R-1615-D).
Order from OTS or SLA $1.10 62-25250

Trans. of Slaboproudy Obzor (Czechoslovakia) 1961, v. 22, no. 1, p. 2-5.

DESCRIPTORS: *Electronic equipment, *Reliability, Failure (Mechanics), Probability, Czechoslovakia.

This article contains a brief review of the simplified theory of trouble incidence, based upon the exponential distribution of probability, with applications and examples of radiotechnical equipment and components (electron tubes). The article is supplemented with a bibliography (Author)

Romanov, V. V.
IMPROVEMENT OF CERTAIN OPERATIONAL CHARACTERISTICS OF SILVER-ZINC STORAGE BATTERIES. 7 June 62 [10]p. FTD-TT-61-272.
Order from OTS or SLA $1.10 62-25724

Unedited rough draft trans. of Vestnik Elektropromyshlennosti (USSR) 1960 [v. 31] no. 9, p. 26-29.

DESCRIPTORS: *Storage batteries, *Alkaline cells, Operation, Silver electrodes, Direct current, Alternating current, Voltage, Zinc electrodes, Electrical equipment.

When charging the silver electrode with asymmetric ac, although a greater amount of silver dioxide forms, there is considerably less on the surface of the electrode than during charging with dc. The decrease in the amount of silver dioxide in the surface layer is also aided by its periodic reduction during the negative half-period of the current. However, a decrease in the amount of silver dioxide on the surface of the positive electrode results in a decrease in the initial discharge voltage and a decrease in the length of the first area on the discharge curve. This influence on the initial voltage and the discharge capacity occurs independently of the way in which the positive electrode is prepared in any cycle. (Author)

Yakovlev, K. A., Pankrushina, D. K., Basin, Yu. G.
GAGE FOR PASSING PULSED POWER. 27 Mar 62 [7]p. FTD-TT-62-182.
Order from OTS or SLA $1.10 62-24278

Unedited rough draft trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1961, no. 4, p. 89-91.

DESCRIPTORS: *Oscillographs, *Pulse descriminators, Gages, Circuits.

Mechanical Engineering

USSR INDUSTRIAL DEVELOPMENT: SOVIET REFRIGERATION MACHINERY NO. 7. 2 Oct 62 [12]p.
JPRS: 15531.
Order from OTS or SLA $1.10 62-33330

Trans. of Kholdil'naya Tekhnika (USSR) 1962 [v. 39] no. 2, p. 1-3 and 71-77; Myasnaya Industriya SSSR, 1961 [v. 32] no. 1, p. 32-33.

DESCRIPTORS: *Industrial production, *Refrigeration systems, *Machines, *Meat, Processing, Grinders.

Contents:
Freon refrigeration with capacities of 6,000, 8,000 and 12,000 standard kcal/hr
Refrigeration machine building in 1961 and its tasks in 1962, by V. I. Blinov
New meat-processing equipment.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REFRIGERATION MACHINERY NO. 8. 8 Oct 62 [12]p. 6 refs.
JPRS: 15596.
Order from OTS or SLA $1.60 62-33286

Trans. of Kholodil'naya Tekhnika (USSR) 1962 [v. 39] no. 3, p. 5-7; Novye Tovary (USSR) 1962, no. 7, p. 6-7

DESCRIPTORS: *Industrial research, Machines, *Refrigeration systems, Production, *Air conditioning equipment, Control, Tests, *Electric machinery, Coolants, *Refrigerant compressors.

Contents:
Concerning the use of AMUR machines on refrigerators, by V. A. Selivanov and V. S. Uzhanskii
Criticism of refrigerator production, by A. Filippov.

Anyutin, A. N. and Shcherbakov, V. K.
THE EFFECT OF THE RADIAL GAP ON THE WORK OF THE AXIAL COMPRESSOR STAGE [AND] FEATURES OF HEAT TRANSFER THROUGH A WALL WITH LONGITUDINAL FINS AT HIGH FLUXES. 24 Apr 62 [25]p. 9 refs. FTD-62-139.
Order from OTS or SLA $2.60 62-24350

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Energetika (USSR) 1961 [v. 4] no. 9, p. 55-61 and 76-82.

DESCRIPTORS: *Axial flow compressors, *Axial flow compressor blades, Heat exchangers, Fins, *Heat transfer.

Ordnance, Missiles, and Satellite Vehicles

TRANSLATIONS ON SPACE SCIENCE. 30 Oct 62 [37]p. JPRS: 15936.
Order from OTS or SLA $3.60 62-33669

Trans. of Mlody Technik (Poland) 1962, no. 7(168) p. 25-29, 52-56; no. 8(169) p. 34-43; and from Pravda (Czechoslovakia) 1962, no. 274A, 4 Oct, p. 2.

DESCRIPTORS: *Space flight, *Satellite vehicles, Communication systems, *Extraterrestrial radio waves, Tracking, Astronautics, *Rocket propulsion, Ion sources, Annihilation reactions, Moon, *Nebulae, Astrophysics.

Contents:
Cosmic radio electronics, by Andrzej Sowinski
Discovery of the lunar nebulae orbiting the earth, by Jan Gadomski
Satellite tracking methods, by Andrzej Klimek
Space and our research, by Milan Ledvina
Dreams of scientists: propulsion of the future, by Ales Blaha.

Aleksandrov, S. G. and Fedorov, R. E.
SOVIET SATELLITES AND SPACE SHIPS: [SELECTED] PARTS. 22 Oct 62 [181]p. JPRS: 15805.
Order from OTS or SLA $13.00 62-33524

Trans. of mono. Sovetskie Sputniki i Kosmicheskie Korabli, 2d. ed., Moscow, 1961, p. 125-144, 185-256, 395-426.

DESCRIPTORS: *Satellite vehicles, *Spaceships, Satellite vehicle research, Upper atmosphere, Atmosphere, Exploration, Physical properties, Rockets, Rocket research, Space flight, Instrumentation.

Contents:
Study of the upper atmosphere and outer space
Artificial satellites and rockets
Artificial satellite and rocket observations
Appendixes 2-7.

Andreev, K. K.
MECHANISM OF INITIATION OF DETONATION IN EXPLOSIVES, tr. by F. E. Wallwork. Sep 61 [21]p. 18 refs. AWRE/Trans/23; [DSIR] NLL M. 4610.
Order from OTS or SLA $2.60 62-25559

Trans. of A[kademiya] N[auk] SSSR. Otd[elenie Tekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1959, no. 4, p. 188-197.

DESCRIPTORS: *Explosives, *Detonation, Excitation, Transmission, Impact shock combustion, Chemical reactions, Ignition, Vapors, Porous materials, Penetration.

The various ways of exciting detonation in explosives are surveyed (development of detonation from deflagration under various conditions, from transmitted detonation, and from the action of shock on the explosive). It appears that the fundamental cause of the development of detonation is the sharp increase in pressure arising from the formation and explosion of a burning suspension of explosive in the gaseous products of combustion. The various possibilities for the formation of a suspension of this type are discussed (penetration of gaseous products of combustion into the porous explosive, irregular course of chemical reaction particularly in solid explosives, agitation in the combustion of liquids, particle cracking in an explosive subjected to sudden heating). (Author)

Biryukov, E. A. and Vereshchagin, I. F.
A THEORETICAL DETERMINATION OF THE OSCILLATORY MOTION OF A WINGED ROCKET [AND] THE MOTION OF A MISSILE ALONG A THREE-POINT CURVE WITH CONSTANT TANGENTIAL ACCELERATION. 20 July 62 [39]p. 7 refs. FTD-TT-62-477; AD-283 865.
Order from OTS or SLA $3.60 62-32984

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1961, no. 2, p. 3-16 and 35-46.

DESCRIPTORS: *Rockets, *Guided missiles, Motion, Rocket trajectories, Guided missile trajectories, Acceleration, Stability, Velocity, Equations of motion, Integration, Oscillation, Angle of attack, Theory.

Fain, V. S.
IDENTIFICATION OF SPATIAL OBJECTS. 12 June 62 [14]p. 8 refs. FTD-TT-62-750; AD-277 646.
Order from OTS or SLA $1.60 62-25858

Unedited rough draft trans. of Problemy Peredachi Informatsii (USSR) 1961, no. 10, p. 49-56.

DESCRIPTORS: *Satellite vehicles, *Identification systems, Tracking.

Possible methods are discussed for identifying spatial objects, and from them is selected a method, suitable from the view point of employing visual identification. In conformity with this method in space of all projections of a three-dimensional object is introduced a functional operator, which records the form of projection in the shape of numbers, and with its aid a description of the form of the object is done in form of functions of one variable. On the basis of using these functions was developed a method of identifying a spatial object by the final number of projections. A variant for practical realization of the operator is given. (Author)

Kurt, V. L. and Shternberg, P. K.
AN ARTIFICIAL SODIUM COMET. 21 Jan 60 [7]p.
USASIA: SC-47C/59; JPRS: 247-D.
Order from OTS or SLA $1.10 62-32784

Trans. of Priroda (USSR) 1959 [v. 48] no. 5, p. 74-76. Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-13894; DSIR LLU M. 1089 [1960] [4]p.

DESCRIPTORS: *Satellite vehicles, Rockets, *Comets, Sodium, Vapors, Ejection, *Sounding rockets, Luminescence.

The idea is discussed of increasing the brightness of a rocket by ejecting a suitable gas from it.

Mashkevich, T.
THE BRAIN, THE HEART, AND THE HANDS OF THE SPACESHIP. 9 May 62 [9]p. FTD-TT-62-725.
Order from OTS or SLA $1.10 62-32583

Unedited rough draft trans. of Ekonomicheskaya Gazeta (USSR) 1962, no. 13(34), p. 36.

DESCRIPTORS: *Spaceships, Automation, Guidance, Telemetering.

HOW TO PROTECT YOURSELF FROM WEAPONS OF MASS DESTRUCTION. 8 Oct 62 [30]p. JPRS: 15589.
Order from OTS or SLA $2.60 62-33284

Trans. of mono. (pamphlet) Kak Zashchishchat'sya ot Oruzhiya Massovogo Porzheniya, Moscow, 1962, 32p.

DESCRIPTORS: *Civilian defense systems, *Nuclear weapons, *Chemical warfare agents, Poisonous gases, *Biological warfare agents, *Radioactivity, Safety.

Lur'e, Yu. Yu. and Nikolaeva, Z. V.
DETERMINATION OF SMALL CONCENTRATIONS OF XANTHATES IN INDUSTRIAL EFFLUENT LIQUIDS (Opredelenie Malykh Kontsentratsii Ksantogenatov v Promyshlennykh Stochnykh Vodakh).
July 62 [11]p. 4 refs. RTS 2007.
Order from OTS or SLA $1.60 62-32468

Trans. of Zavodskaya Laboratoriya (USSR) 1956, v. 22, no. 1, p. 30-35.

DESCRIPTPRS: *Xanthic acid, Nickel, *Colorimetric analysis, Water, Organic solvents, Solvent extraction, Separation, Liquids, Purification, Interference, *Water supplies, Chemical waste, Sewage, Ores, Industrial plants.

A new, accurate and sensitive method of colorimetric determination of xanthates in industrial effluent liquors and in natural waters is put forward. The method is based on extraction of nickel xanthate by an organic solvent. The method is suitable for determination both of very small and relatively large concentrations of xanthates (0.025 to 90 mg/liter) Thiophosphates, zinc, simple cyanides and complex zinc cyanides do not interfere. Lead, copper, and complex copper cyanides interfere. Means for eliminating these interfering constituents are proposed. (Author)

Smitt, G.
NEW TYPES OF STANDARD SHELTERS. [1961].
Order from ATS $12.45 ATS-69N568

Trans. of Vag- och Vattenbyggaren [sic] (Sweden) 1961, no. 1, p. 9-12.

DESCRIPTORS: *Shelters, Sweden.

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

USSR INDUSTRIAL DEVELOPMENT: SOVIET FOOD PROCESSING MACHINERY NO. 3. 29 Oct 62 [23]p. JPRS: 15908.
Order from OTS or SLA $2.60 62-33610

Trans. of Myasnaya Industriya SSSR, 1962 [v. 33] no. 4, p. 20-22 (extracts) 39-40 (extracts) 63-64; and from Sovetskaya Kirgiziya (USSR) 1962, 18 July, p. 2; 31 July, p. 3.

DESCRIPTORS: *Industrial production, *Food, *Processing, Production, *Machines, Frozen food, *Meat, Preservation, Automation.

Contents:
The defective production at the Novo-Troitsk machine building plant, by N. Dertsol'ts
The lagging reconstruction of the Novo-Troitsk machine building plant, by Ya. Ostrovskii
The constant flow apparatus for quick freezing of meat dumplings, by A. Sheffer and others
The fat batcher for meat preserves, by V. Borisov
The thematic exhibition of mechanization and automation of the production processes in the meat industry, by A. Apraksina.

Benin, G. S.
SUL PROBLEMA DELLA DEPURAZIONE DEL TUGO DI 2a CARBONATAZIONE CON RESINE SCAMBIATRICI DI JONI (The Problem of the Purification of Sugarsap of the Second Carbonatation with Ion Exchange Resins). 10p. CNP-10. (text in Italian).
Order from OTS or ETC $1.55 62-26089

Trans. of Sakharnaya Promyshlennost' (USSR) 1959, v. 11, p. 36-38.

DESCRIPTORS: Purification, *Ion exchange, *Saccharides, Manufacturing methods.

Les'kiv, T. M.
L'USO DI IDROCIOLONI NELL'INDUSTRIA DELLO ZUCCHERO (Utilization of Hydrocyclones in Sugar Industry). 9p. CNP-3. (text in Italian).
Order from OTS or ETC $1.55 62-26082

Trans. of Sakharnaya Promyshlennost' (USSR) 1958, no. 3, p. 17-20.

DESCRIPTORS: *Sugar industry, *Cyclones, Water.

Mikhatova, G. N.
TEMPERATURA OTTIMA DI PRE-DEFECAZIONE (The Optimum Temperature of Predefecation). 12p. 3 refs. CNP-7. (text in Italian).
Order from OTS or ETC $1.85 62-26086

Trans. of Sakharnaya Promyshlennost' (USSR) 1958, no. 8, p. 29-34.

DESCRIPTORS: *Sucrose, *Fruit juices, Sedimentation Water filters, *Beets, Colors.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

SOVIET MACHINE BUILDING: SELECTED TRANSLATIONS NO. 39. 3 Feb 61, 37p. JPRS: 7662.
Order from OTS $1.00 61-21150

Trans. of #Priborostroenie (USSR) 1960, no. 7, p. 16-19; no. 8, p. 9-15, 26-27; and one unidentified article.

DESCRIPTORS: *Machines, *Potentiometers, Instrumentation, *Electronic equipment, Control systems, Recording devices, *Voltmeters, *Automation, *Metallurgy, Weighing, Density sensitive indicators, Heat sensitive elements, Polarographic analysis, Rolling mills, Moisture meters, Gas detectors, *Petroleum industry, Chromatographic analysis, Lubricants, Corrosion, Pneumatic servomechanisms, *Ammeters, Amplifiers, *Programming.

Contents:
Feasibility of producing R330 compensators, by. V. A. Kochan
New instruments, by N. N. Skvortsov
New instruments and automation equipment for nonferrous metallurgy, by G. A. Zubkov
New instruments and automation equipment for petroleum refining, by S. S. Belozerskii and Ya. Kh. Narodnitskii
F505 voltmeters and F58 milliameters with electrostatic measuring mechanisms and electronic amplifiers, by Ya. S. Averbukh
Type RU5 automatic electronic programming regulating unit, by N. N. Skvortsov.

SOVIET MACHINE BUILDING: SELECTED TRANSLATIONS NO. 47. 23 Feb 61, 22p. JPRS: 7799.
Order from OTS $0.75 61-21284

Trans. of 14 selected short articles from 1960 issues of 11 Russian periodicals.

DESCRIPTORS: *Industrial production, *Machines, *Automation, *Automotive industry, Cargo vehicles, Passenger Vehicles, *Machine tools, Construction, Maintenance vehicles, *Excavators, *Hoists.

Contents:
Methods of determining the effectiveness of over-al' mechanization and automation, by A. Efimov
The ZIL-166A bottled-gas-burning truck, by A. Zubarev and A. Koman

The ZIL-111V convertible passenger car
The Ural-375 truck, by A. Rubenshtein
Computing norms for section quotas in coordinated continuous production
The first Soviet compact car, by Yu. Leskov
I am for sensible application of rotary lines, by A. Rybkin
At the "urban construction" exhibit
Construction machinery, by E. Semodoev
New construction machines and mechanisms
Concerning some defects of type E-505 excavators, by P. A. Oshkin
Modernization of the T-108 crane, by L. A. Davidson.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CONSTRUCTION MACHINERY NO. 18. 15 Oct 62 [42]p. JPRS: 15688.
Order from OTS or SLA $4.60 62-33438

Trans. of Mekhanizatsiya Stroitel'stva (USSR) 1962 [v. 19] no. 8, p. 18-21 (excerpts); 25-26 (excerpts); and 30-32; Avtomobil'nye Dorogi (USSR) 1962 [v. 25] no. 6, p. 29; and from Pravda, Moscow (USSR) 1962, 3 Aug, p. 3; Pravda Ukrainy (USSR) 1962, 8 June, p. 2.

DESCRIPTORS: *Industrial production, Machinery, *Conferences, Construction, *Road building equipment, *Irrigation systems, *Mining engineering, *Concrete, *Hoists.

Contents:
Conference on construction and road-building machines
Irrigation machinery of the future, by Yu. G. Manuilov
When are the miners finally going to receive up-to-date technological equipment, by P. Sledzyuk and M. Agoshkov
More about new technology for "Krivbass", by L. Lukich
A concrete-finishing machine
The KB-60 tower crane, by V. I. Polyakov and A. N. Chernov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METAL-WORKING EQUIPMENT NO. 31. 1 Oct 62 [34]p. JPRS: 15509.
Order from OTS or SLA $3.60 62-33321

Trans. of Mashinostroenie (USSR) 1962, no. 1, p. 87-89, 111-113; Ekonomicheskaya Gazeta (USSR) 1962, no. 27[48] p. 29; no. 26[47] p. 44 (excerpts); partial trans. (excerpts) of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 5, p. 35-43, 45-49.

DESCRIPTORS: *Industrial production, *Machine tool industry, Conferences, *Transmission gears, *Grinders, Drilling machines, *Micrometers, *Milling machines, Lathes, Industrial plants.

Contents:
The All-Union Scientific Technical Conference on Gear Transmissions, Odessa, 5-11 Sep 61, by K. I. Zablonskii
New machine tools designed by SKB-3, by A. A. Makarov and L. S. Akhmechet
Circular automatic production line for machining micrometer frames, by V. K. Grigor'ev
The utilization of new small unit-type machine tools in the plant imeni Likhachev, by S. M. Zonnenberg
Multiple-spindle automatic rotary mill model DF-163, by M. S. Briskin
Machine tools of the Ryazan' machine tool building plant, by V. A. Fedotov and others
Shortcomings of the Moscow grinding machines plant
Plants should be specialized in accordance with the capacity of the machine tools they produce, by N. Lych.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METAL-WORKING EQUIPMENT NO. 32. 15 Oct 62 [12]p. JPRS: 15691.
Order from OTS or SLA $1.60 62-33446

Partial trans. (excerpts) of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1962, no. 7, p. 7-8, 27-32 and Mashinostroenie (USSR) 1962, no. 1, p. 36.

DESCRIPTORS: *Industrial production, *Machine tools, Industrial plants, *Metal forming presses, *Dies, *Drilling machines.

Contents:
Presses of the Voronezh heavy power press plant, by G. A. Brudnoi
Cold stamping, two stroke automatic machine, model AB-120, with integral die, by N. G. Zubok and F. P. Rabinovich
Self-propelled T-150-ZIV and SBUE-150-AIZ machines for exploratory well drilling, by Yu. M. Korkin and S. G. Kaledin.

Linke, J.
COMPENSATION OF PULSATIONS IN CHAIN DRIVES (Ausgleich der Ungleichformigkeit in Kettentrieben). [1962] [12]p. 1 ref.
Available on loan from SLA 62-18786

Trans. of V[erein] D[eutscher] I[ngenieure]. Zeitschrift (West Germany) 1956, v. 98, 11 Mar, p. 308-310.

DESCRIPTORS: *Drive chains, Motion, Dynamics, Velocity, Acceleration.

An analysis of chain motion in chain drives shows why this motion is non-uniform, and makes it possible to compute the dynamic forces which are involved in the motion. Non-uniformity of chain motion can be suppressed by means of a compensation drive, whose cam form can be determined easily.

Rozanov, B. V. and Lints, V. P.
AUTOMATIC COMPENSATION OF TILTING MOVEMENT OF THE RAM IN HYDRAULIC FORGING PRESSES. Aug 62.
Order from BISI £ 4 10s BISI-2885

Trans. of Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1961 [v. 3] no. 6, p. 38-43.

DESCRIPTORS: *Hydraulic presses, *Forge presses, Operation.

Trushchenko, A. A.
APPARATUS FOR NONDESTRUCTIVE INSPECTION OF WELDED JOINTS. 25 Apr 62 [16]p. (7 figs. omitted). FTD-TT-62-565.
Order from OTS or SLA $1.60 62-25851

Unedited rough draft trans. of Avtomaticheskaya Svarka (USSR) 1961 [v. 14] no. 11, p. 86-94.

DESCRIPTORS: *Welded joints, Joints, *Non-destructive testing, Test equipment, Ultrasonics, Gamma rays, Magnetism, X-rays, Colors.

Modern defectoscopes for ultrasonic, magnetic, X-ray- and gamma-graphic, color, and other methods of nondestructive inspection of the quality of welded joints and materials are described.

Zaroshchinskii, M. L., Nikitin, G. S., and Sinel'nikov, Yu. I.
DETERMINATION OF POWER-FORCE PARAMETERS IN THE ROLLING OF SPECIAL ALLOY SHEETS. [1962] 12p.
Order from ATS $13.75 ATS-75P61R

Trans. of Izv[estiya] Vysshikh Uchebn[ykh] Zavedenii. Mashinostr[oenie] (USSR) 1961, no. 10, p. 168-179.

DESCRIPTORS: *Sheets, *Alloys, *Rolling mills, Power, Voltage, Electric currents, Circuits, Dielectric properties, Determination, *Electric machinery.

Engines and Propulsion Systems

Eckert, B.
GAS TURBINE POWER PLANTS FOR AUTOMOBILES: PRESENT STAGE OF DEVELOPMENT AND FUTURE PROSPECTS. [1962] [16]p.
Available on loan from SLA 62-18789

Trans. of ATZ [Automobiltechnische Zeitschrift] (Germany) 1955, v. 57, no. 3, p. 78-83.

DESCRIPTORS: *Passenger vehicles, Vehicles, *Gas turbines, Power plants, Design, Torque.

In recent years, the development of gas turbine power plants for automobiles in a number of countries has become headline news in the automotive world. The author reports here on present developments in the USA, in England, and in France. Prospects for automotive gas turbines are analyzed against the background of present power plants for passenger and commercial vehicles. Present experience indicates that gas turbines are competitive only in the horsepower class of the largest commercial-vehicle engines.

Eckert, Bruno.
TRENDS AND PROSPECTS OF GAS TURBINE DEVELOPMENT PARTICULARLY FOR NON-STATIONARY INSTALLATIONS. [1962] [63]p. 8 refs.
Available on loan from SLA 62-18798

Trans. of MTZ; Motortechnische Zeitschrift (West Germany) 1955, v. 16, no. 2, p. 32-42 and no. 3, p. 68-73.

DESCRIPTORS: *Gas turbines, Economics, Combustion chambers, Thermal stresses, Aircraft, Marine engines, Locomotives, Power plants, Propulsion, Effectiveness.

Isaev, A. I. and Morozov, N. A.
EFFECT OF MECHANICAL PROCESSING ON THE OPERATIONAL PROPERTIES OF GAS TURBINE BLADES. 4 June 62 [15]p. 1 ref. FTD-TT-62-576.
Order from OTS or SLA $1.60 62-32416

Unedited rough draft trans. of Tsentral'nyi Nauchno-Issledovatel'skii Institut Tekhnologii i Mashinostroeniya, Moscow (USSR) 1961, v. 102, p. 45-57.

DESCRIPTORS: *Gas turbine blades, Turbine blades, Operation, Surface properties, Machining, Test methods, Mechanical properties, Fracture (Mechanics) Microstructure.

In the process of gas turbine operation the surface purity of the working part of the blades made of EI765 alloy changes within a period of short time. The higher the initial surface purity the greater is the degree of change. A reduction in surface purity in the working parts of gas turbine blades down to 6th class of surface purity at the time of operation indicates that the machining of the working surfaces of turbine blades to above 6th class purity is inadvisable. Buffed blades have much lower erosion resistance than blades ground or milled. (Author)

Löhner, K., Döhring, E., and Chore, G.
TEMPERATURE VARIATIONS ON THE INTERNAL CYLINDER SURFACES OF COMBUSTION ENGINES (Temperaturschwingungen an der Innenwand von Verbrennungskraftmaschinen). [1962] [27]p. 6 refs.
Available on loan from SLA 62-18794

Trans. of MTZ [Motortechnische Zeitschrift] (West Germany) 1956, v. 17, no. 12, p. 413-418.

DESCRIPTORS: *Internal combustion engines, *Engine cylinders, Surface area, Temperature, Periodic variations, Cylinder liners, Thermal stresses.

Transport, Traction and Hoist Facilities

USSR INDUSTRIAL DEVELOPMENT: SOVIET AUTOMOTIVE INDUSTRY NO. 21. 25 Sep 62 [32]p. JPRS: 15433.
Order from OTS or SLA $3.60 62-33121

Trans. of Avtomobil'nyi Transport (USSR) 1962 [v. 40] no. 5, p. 44-45; Ekonomicheskaya Gazeta (USSR) 1962, no. 22[43] p. 28; Tehnica Noua (Rumania) 1962 [v. 9] 1 Aug, p. 5; and from Vechernyaya Moskva (USSR) 1962, 21 June, p. 2; Pravda. Moscow (USSR) 1962, 11 Feb, p. 2; 27 June, p. 3; 29 June, p. 2.

DESCRIPTORS: *Automotive industry, Cargo vehicles, Vehicles, Conveyors, Passenger vehicles, Industrial production, Industrial plants.

Contents:
Truck trains of the Ul'yanovsk Plant, by L. Karpov and Yu. Sokolov
Specialized vans, by V. Brodskii
The motor vehicle at the plant and in operation, by E. Kuznetsov
Vehicle heroes, by P. Ianculescu
So this is who is delaying reconstruction
A conveyer is born, by I. Pavlov
Exciting days, by I. Nasonov
The target dates have been undermined, by N. Raitsin
Time does not wait, by B. Dyshman
Measures have not been taken
Explosions in engines, by V. Markov
The graph at the "zero" cycle
Diary of good deeds
Diary of unfulfilled promises.

Coeuillet, M.
PIPING OF SOLIDS IN COAL MINES (Le Transport des Solides en Conduits dans les Houilleres]. June 62.
Order from BISI £ 4 5s BISI-2276

Trans. of la Technique Moderne (France) 1960, v. 52 [no. 6] p. 312-318.
Another trans. is available from SLA $1.60 as 61-18300 [1961] [17]p. and a partial trans. from SLA $1.60 as 62-10251 [1961] 11p.

DESCRIPTORS: *Pneumatic devices, *Hydraulic conduits *Pipes, Solids, Particles, Coal, Mines.

For abstract see Technical Translations 6: 602, 1961.

Grzegdal, J.
USE OF ANALYTIC MACHINES IN CALCULATING STATISTICS ON ROLLING-STOCK OPERATION IN THE CENTRAL STATISTICAL BUREAU OF POLISH STATE RAILROADS. 13 Apr 59 [21]p. JPRS: L-1619-D.
Order from OTS or SLA $2.60 59-11501

Trans. of Przeglad Kolejowy (Poland) 1958 [v. 10] no. 11, p. 425-531.

DESCRIPTORS: *Locomotives, *Railroad cars, Statistical data, Processing, *Punched card methods, Transportation, *Poland.

The author describes the use of analytic machines for calculating statistics relating to the operation of rolling stock; describes the types of machine, operations performed by them, and, in short, throws light on the course of statistical calculations by means of these machines in the Central Statistical Bureau. (Author)

Karpenko, V.G.
WINTER USE OF WHEELED AND TRACKED VEHICLES, tr. by Pash. 1 Mar 62 [204]p. H-7497
Order from OTS or SLA $14.00 62-24062

Trans. of mono. Zimnyaya Ekspluatatsiya Kolesnykh i Gusenichnykh Mashin [Moscow] 1958, 255p.

DESCRIPTORS: *Vehicles, Vehicle wheels, *Tracked vehicles, Fuels, Oils, Freezing point depressants, *Internal combustion engines, Climatic factors, Arctic regions, Starting.

The purpose of this book is that of providing assistance to officers, engineers, and technicians concerned with the operation of wheeled and tracked vehicles in the proper selection of the methods of vehicle operation in the winter and the application of various technical means to facilitate it. The book examines the features of wheeled and tracked vehicle operation under winter conditions, and provides a description and methods for calculating the different technical means supporting the winter operation of vehicles. It also provides the necessary information on winter grades of operating materials (on fuels, oils, and anti-freeze liquids), and on their use in vehicles. The material for this book was the result of a great number of test and research efforts on individual questions of winter operation of vehicles conducted by different scientific-research organizations, a many-year practice in the operation of vehicles of different classes and types under winter conditions, including the experiences of the Great Fatherland War in this respect, as well as the corresponding theoretical and experimental developments and research conducted by the author. (Author)

Kopec, M.
IS THE PRESENT METHOD OF CALCULATING THE COEFFICIENT OF FREIGHT CAR TURNOVER PROPER? 26 Jan 59 [8]p. 1 ref. JPRS L-1441-D.
Order from OTS or SLA $1.10 59-11434

Trans. from Przeglad Kolejowy-Przewozowy (Poland) 1958 [v. 10, no. 1].

DESCRIPTORS: *Railroad cars, Scheduling, Cargo, Transportation, Management engineering, Poland.

Mlodecki, Waclaw
THE PROBLEM OF MODERNIZING TRACTION ON THE PKP. 26 Nov 58 [15]p. JPRS/DC-L-1126.
Order from OTS or SLA $1.60 59-11329

Trans. of Przeglad Kolejowy (Poland) 1958, v. 10, no. 7, p. 241-246.

DESCRIPTORS: Steam, *Locomotives, *Railroad cars, *Electric motors, *Diesel engines, *External combustion engines, Railroads, Transportation, Poland.

The purpose of this article is to clarify the basic reasons which induced the Ministry of Communication to stop the construction of new steam locomotives. The article also aims at presenting the perspectives for a gradual transition from steam traction to electric and diesel traction. Such a picture is necessary for an understanding of the rate of purchases of new rolling stock, the scope of the nec-

essary training of personnel, and the creation of technical bases. (Author)

Tackert, R. and Grevesmühl, A.
ADJUSTABLE-RAIL-GAGE AXLE UNIT [AND] SPECIAL CONSTRUCTIONS. 21 Aug 62, 2p. AID rept. 62-118; AD-283 003.
Order from OTS or SLA $1.10 62-32776

Review of Deutsche Eisenbahntechnik (East Germany) 1962 [v. 10] no. 3, p. 113-118 and no. 6, p. 268-269.

DESCRIPTORS: *Railroad cars, *Axle shafts, Vehicle wheels.

MATERIALS

Beyersdorf, P.
GLASS COMPOSITION FOR SPINNING. Oct 62, 300 words.
Order from TTIS $2.50 TTIS NS 52

Trans. of East German patent 23,467, appl. 17 May 58, pub. 24 July 62.

DESCRIPTORS: *Glass, Chemical analysis, Processing

Bugat, N. T. and others.
NITROCELLULOSE EMULSIONS FOR PAINTS AND LACQUERS. Oct 62, 3000 words.
Order from TTIS $18.00 TTIS 4014

Trans. of German patent 1,135,599, appl. 18 June 59, pub. 30 Aug 62.

DESCRIPTORS: *Nitrocellulose, *Plasticizers, *Paints, *Varnishes, Production, Colloids.

Kuzmin, G. K.
METODI DI PRECOMPRESSIONE DEI SERBATOI CILINDRICI DI CALCESTRUZZO ARMATO (Method of Pre-stressing of Cylindrical Tanks of Reinforced Concrete). 14p. CNP-45. (text in Italian).
Order from OTS or ETC $1.85 62-26117

Trans. from Betoni Zhelezobeton (USSR) 1961, no. 1.

DESCRIPTORS: *Storage tanks, *Concrete, Stresses.

Meiklyar, P. V.
NATURA DELLA SENSIBILITA DEGLI STATI FOTOGRAFICI VERSO LA LUCE (Nature of the Light-sensitivity of Photographic Emulsions) 12p. 12 refs. CNP-12. (text in Italian).
Order from OTS or ETC $1.85 62-26091

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 77, no. 3, p. 391-394.

DESCRIPTORS: *Photoconductivity, *Photographic emulsions, Sensitivity, Light, *Silver compounds, Iodes, Bromides, Crystals.

Milchenko, R. S. and Pietrova, M. D.
IMPIEGO DI ULTRASUONI PER IL CSQ DEI MATTONI DI CHAMOTTE (Use of the Supersonant in the CSQ of Bricks of Chamotte). 4p. CNP-29. (text in Italian).
Order from OTS or ETC $1.40 62-26101

Trans. of Ogneupory (USSR) 1959, no. 3, p. 141-142.

DESCRIPTORS: *Brick, *Ultrasonics, Manufacturing methods.

Poglodek, T. and Zaiaczkowska, J.
CONTRIBUTO ALLA DETERMINAZIONE DELLA LIGNINA NELLE MATERIE PRIME FIBROSE E DELLE PASTE SEMICHIMICHE (Contribution to the Determination of Lignin of Fibrous Raw Material and of the Semi-chemical Paste). 12p. 2 refs. CNP-13. (text in Italian).
Order from OTS or ETC $1.85 62-26092

Trans. of Przeglad Papierniczy (Poland) 1960, p. 97.

DESCRIPTORS: *Lignin, Determination, Wood pulp fibres.

Ruga, D. S.
PROGETTO TIPO DI UNA INSTALLAZIONE DI PRESSATURA DI MATTONI DI CHAMOTTE PER LA CAPACITÀ ANNUA DI 200.000 t. (Typical Project of an Installation for Pressing Bricks of Chamotte with an Annual Capacity of 200.000 t.). 18p. CNP-30. (text in Italian).
Order from OTS or ETC $1.85 62-26102

Trans. of Ogneupory (USSR) 1959, no. 3, p. 101-107.

DESCRIPTORS: *Brick, Pressure, Installation, Manufacturing methods.

Shavlovich, M.
DURABLE MATERIALS "BY COMMAND". 24 May 62 [9]p. FTD-TT-62-655.
Order from OTS or SLA $1.10 62-32421

Unedited rough draft trans. of Tekhnika Molodezhi (USSR) 1961 [v. 29] no. 10, p. 22-23.

DESCRIPTORS: Polymers, *Plastics, *Concrete, Construction materials industry.

Slovinski, V. A.
CALCOLO DI COSTRUZIONI IN CEMENTO ARMATO PRECOMPRESSO CON TENSIONE SUCCESSIVA DELL'ARMATURA (Calculation of Constructions in reinforced Pre-stressed Concrete with Successive Tension of the Reinforcement). 9p. CNP-44. (text in Italian).
Order from OTS or ETC $1.55 62-26116

Trans. from Betoni Zhelezobeton (USSR) 1961, no. 1.

DESCRIPTORS: *Reinforced concrete, Concrete reinforcing steel, *Stresses.

Svetov, A. A., Vinichenko, I. A., and Kramar, V.G.
FABBRICAZIONE DI PANNELLI IN PRECOMPRESSO DI DIMENSIONI m. 3x12 NEL SOVNARKHOS DI ZAPOROGIE (Making of Panels in Pre-stressed Concrete with the Dimensions 3x12 m. After Sovnarkhos di Zaporogie). 14p. CNP-43. (text in Italian).
Order from OTS or ETC $1.85 62-26115

Trans. from Betoni Zhelezobeton (USSR) 1961, no. 1.

DESCRIPTORS: *Prefabricated building, *Concrete, Stresses.

Toropov, N. A. and Volkonskii, B. V.
HYDRAULIC ACTIVITY OF GRANULATED SLAGS. Nov 57 [4]p. BISI Trans. no. 775; NLL M. 4163.
Order from OTS or SLA $1.10 62-24170

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 66, no. 1, p. 95-97.

DESCRIPTORS: *Slags, Chemical analysis, Phase studies, Crystallization, Blast furnaces, *Cements, Heat of solution, Cooling, Hydraulic research, Grains

Yamato, Tatsumi, Sasada, Teruo, and Isayama, Kazuo.
STUDIES ON BLOOMING, I. Oct 62, 15p. 8 refs.
Order from SA $18.00 SA Code-R1

Trans. of Nihon Gomu Kyokaishi (Japan) 1955, v. 28, no. 4, p. 216-223.

DESCRIPTORS: *Rubber, *Polymers, Aging, *Sulfur, Deposits, Coatings.

Yanpolskaya, A. A. and Koba, G. A.
REGOLAZIONE AUTOMATICA PRESSATURA MATTONI ALLA PRESSA CM-143 (Automatic Control on Pressing Bricks CM-143). 15p. CNP-23. (text in Italian).
Order from OTS or ETC $1.85 62-26077

Trans. of Ogneupory (USSR) 1959, no. 3, p. 115-120.

DESCRIPTORS: *Brick, Control, Manufacturing methods, Pressure.

Ceramics and Refractories

Clerc, Pierre le and Peyches, Ivan.
POLARISATION OF REFRACTORY OXIDES IMMERSED IN MELTED GLASS (Polarisation des Oxydes Réfractaires Plongés dans le Verre Fondu). [1962] [15]p. (foreign text included).
Order from SLA $1.60 62-16412

Trans. of Verres et Refractaires (France) 1953, v. 7, no. 6, p. 339-345.

DESCRIPTORS: *Glass, Melting, Fused materials, Oxides, *Refractory materials, Polarization, Electrolytes, Electrochemistry, Electrical equipment.

Lungu, Stelian [N]. and Popescu-Has, Dumitru.
THEORETICAL BASIS OF PRODUCTION OF PORCELAIN FROM GLASS (Bazele Teoretice ale Obtinerii Portelanului din Sticla). [1962] [13]p. (foreign text included) 5 refs.
Order from SLA $1.60 62-14865

Trans. of Industria Usoara (Rumania) 1959, v. 6, no. 5, p. 177-180 (also pub. in Silicates Industriels (Belgium) 1958 [v. 23] no. 7).

DESCRIPTORS: *Glass, Crystallization, Temperature, Viscosity, Production, Ceramic materials, Silicates

Maillard, J.
PRODUCTION OF DOLOMITE BRICKS. Oct 62.
Order from BISI £3 10s BISI-2996

Trans. of unidentified French mono. paper presented at the meeting, Maizières-les-Metz, 26 May 61.

DESCRIPTORS: *Brick, *Dolomite, Production.

Fuels, Lubricants, and Hydraulic Fluids

Charron, F.
CASE OF THE PLASTIC LUBRICANTS: EXISTENCE OF THEIR ANISOTROPY: STUDY OF LUBRICATION UNDER RAPIDLY VARIABLE PRESSURE. [1962] 22p.
Order from K-H $27.50 K-H 5738

Trans. of Ministere de l'Air. Publications Scientifiques et Techniques (France) 1956, no. 310.

DESCRIPTORS: *Plastics, *Lubricants, Chemical properties, Pressure, Physical properties, Lubrication

Durand, Georges and Lahouste, Jean.
A LABORATORY COKING OVEN FOR 20-KG. CHARGES. [1960] [16]p. 12 refs.
Order from OTS or SLA $1.60 60-13262

Trans. of mono. pub. by Centre d'Etudes et Recherches des Charbonnages de France, 1959, p. 1-11

DESCRIPTORS: Laboratory furnaces, Metallurgical laboratories, *Coke, Ovens, *Coal, Quality control, Carbonization, Costs.

Ivanov, K. I., Vilyanskaya, E. D. and others.
THE RESULTS OF PERFORMANCE TESTS OF FIRE-RESISTANT "IVVIOL' 1A" TURBINE OIL. 11 June 62 [10]p. 3 refs. FTD-TT-62-715.
Order from OTS or SLA $1.10 62-32524

Unedited rough draft trans. of Teploenergetika (USSR) 1961 [v. 8] no. 11, p. 27-29.

DESCRIPTORS: *Lubricants, *Oils, Turbines, Physical properties, Chemical properties, Tests.

A NEW CLASS OF FIBERS OF REGENERATED CELLULOSE. [1961] [10]p. 12 refs.
Order from SLA $1.10 61-18572

Trans. of Celuloza si Hirtie (Rumania) 1959, v. 8, no. 10, p. 318-320.

DESCRIPTORS: *Cellulose, Fibers, Regeneration, Polymerization, Mechanical properties.

Hada, Buei.
PREPARATION OF ACRYLONITRILE-ALLYLALCOHOL COPOLYMERIC FIBER BY γ-RAY INDUCED COPOLYMERIZATION. Oct 62, 14p. 8 refs.
Order from SA $18.00 SA Code-S110

Trans. in manuscript of Sen-i Gakkaishi (Japan) 1960, v. 16, no. 10, p. 810-812.

DESCRIPTORS: *Synthetic fibers, Preparation, *Acrylonitriles, Allyl radicals, Alcohols, Copolymerization, Gamma rays, *Radiation effects, Mechanical properties, Dyes.

Meckel, L., Milster, H., and Krause, U.
TEXTILE-CHEMICAL TESTING BY MEANS OF FILM CHROMATOGRAPHY (Textilchemische Prüfungen mit Hilfe der Dünnschichtchromatographie) tr. byH. A. G. Nathan. [1962] 12p. 11 refs. NRCC Technical trans. 1040.
Order from NRCC $1.00 NRCC C-4084

Trans. of Textil-Praxis (West Germany) 1961, v. 16, no. 10, p. 1032-1037.

DESCRIPTORS: Textiles, *Cellulose, *Wool, *Dyes, Finishes, *Resins, Urea formaldehyde resins, Melamine, Ethylenes, Epoxides, *Chromatographic analysis, Films.

Nakai, Akiyoshi and Yoshikawa, Seibei.
SOME RESULTS OF HEAT-TREATMENT OF POLYPROPYLENE FIBERS. Rept. 1 of Study on Heat-Treatment of Polypropylene Fibers. Oct 62, 11p. (figs. omitted) 6 refs.
Order from SA $18.00 SA Code-S265

Trans. of Sen-i Gakkaishi (Japan) 1961, v. 17, no. 10, p. 997-1001.

DESCRIPTORS: *Synthetic fibers, *Propenes, Polymers Heat treatment, Physical properties, Molecular structure, Glycols, Ethylenes.

Oda, Ryohei and Hayashi, Yoshiyuki.
SYNTHESIS OF SOME HETEROCYCLIC COMPOUNDS WITH LONG ALKYL SIDE CHAINS AND THEIR APPLICATIONS AS WATER-REPELLING AGENTS FOR TEXTILES. Oct 62, 13p. 7 refs.
Order from SA $18.00 SA Code-G495

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 7, p. 1230-1233.
Another trans. is available from SLA $1.60 as 62-14966 [1962] 15p.

DESCRIPTORS: Textiles, *Moistureproofing, *Heterocyclic compounds, Synthesis, Pyridines, Azoles, Iodides, Laurates, Quinolines.

Oya, Seigo, Yasuda, Akira, and Nakai, Akiyoshi.
SOME RESULTS ON DRAFT. Rept. 1 of Melt Spinning of Polypropylene. Oct 62, 14p. (figs. omitted) 8 refs.
Order from SA $18.00 SA Code-S277

Trans. of Sen-i Gakkaishi (Japan) 1961, v. 17, no. 11, p. 1088-1093.

DESCRIPTORS: *Synthetic fibers, *Propenes, Drawing (Machine processing), Velocity, Tensile properties, Optics.

Rieckert, M.
DYEING AND PRINTING DAY. II. PRODUCTION AND PROPERTIES OF TEXTURED YARNS. [1961].
Order from ATS $13.55 ATS-35N54R

Trans. of Teintures et Apprets [sic] (Rumanian) 1960, no. 59, p. 110-115.

DESCRIPTORS: *Threads, Textiles, Fibers, Production, *Dyeing.

Sunayama, S.
DYEING AFFINITY OF ZINC OXIDE. [1962] 4p.
Order from ATS $5.00 ATS-47P62J

Trans. of Denshi Shashin (Japan) 1961, v. 3, no. 3, p. 18-19.

DESCRIPTORS: *Oxides, *Zinc compounds, *Dyes. Dyeing, Chemical reactions.

Suzawa, Toshiro.
ζ-POTENTIAL, SURFACE CHARGE DENSITY, SURFACE DYE ADSORPTION AND EFFECTIVE SURFACE AREA OF NATURAL AND SYNTHETIC FIBERS IN DYE SOLUTION. Rept. 13 of Studies on ζ-Potential of Natural and Synthetic Fibers in Dye Solution. Oct 62, 20p. 13 refs.
Order from SA $21.00 SA Code-G26

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 3, p. 573-576.

DESCRIPTORS: Textiles, *Synthetic fibers, *Woolen textiles, *Cotton textiles, Surface properties, Electric fields, *Dyes, Solutions, Adsorption.

Suzawa, Toshiro.
RELATIONSHIP BETWEEN SURFACE CHARGE DENSITY AND DYE ADSORPTION OF VINYLON IN DIRECT DYE SOLUTION. Rept. 12 of Studies on ζ-Potential of Natural and Synthetic Fibers in Dye Solution. Oct 62, 22p. 8 refs.
Order from SA $24.00 SA Code-G23B

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 2, p. 369-372.

DESCRIPTORS: Textiles, *Synthetic fibers, *Vinyl radicals, Surface properties, Electric fields, Density, *Dyes, Solutions, Adsorption.

Takahashi, Masao.
SOLUTION TEMPERATURE OF VARIOUS MIXED SOLVENTS ON ACRYLONITRILE POLYMER. Rept. 37 of Studies on Acrylic Fiber. Oct 62, 20p. 17 refs.
Order from SA $21.00 SA Code-G469

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 6, p. 1134-1136.
Another trans. is available from SLA $1.10 as 62-14965 [1962] 10p.

DESCRIPTORS: *Acrylic resins, *Synthetic fibers, *Acrylonitriles, Temperature, Solutions, Organic solvents, Nitro radicals, Methanes, Formamides.

Wolf, L. A., Meos, A. I. and others.
CAUSES OF VINOL YELLOWING DURING THERMAL TREATMENT AND THE METHODS OF AGEING, tr. by I. Gawronska. 6 Oct 61 [7]p. 3 refs. Courtaulds Misc. Lit. 3380; NLL M. 3484.
Order from OTS or SLA $1.10 62-23954

Trans. of Khim[icheskie] Volokna (USSR) 1961, no. 1, p. 19-21.

DESCRIPTORS: *Vinyl alcohol, Aging, *Synthetic fibers, Oxidation, Calorimetry, Calorimetric analysis, Dyeing, Heat treatment, Deterioration.

It has been found that the yellowing of vinol during thermal treatment is due to the oxidation of the fibre by air oxygen in an alkaline medium. The effects on vinol yellowing during thermal treatment of sodium bisulphate and zinc sulphate added to the polyvinyl alcohol solutions have been investigated. It is shown that the intensity of vinol yellowing during thermal treatment is reduced by supplementary treatment with dilute solutions of sulphuric acid (with subsequent washing in salt baths) or by repeated washing in sodium sulphate solutions. (Author)

Plastics

Chatain, Michel.
RELATIONS BETWEEN THE PROPERTIES AND THE METHODS OF MOLDING OF THERMOPLASTICS [I]. [1962] [17]p.
Order from K-H $21.00 K-H 8954

Trans. of Industrie des Plastiques Modernes (France) 1958 [v. 10, no. 5] p. 45-53.
Another trans. is available from SLA mi$3.00, ph$6.30 as 59-17738 [1959] [37]p.

DESCRIPTORS: *Plastics, Molding, *Thermosetting resins, Hardening, Manufacturing methods.

Ide, Fumio.
GRAFT COPOLYMERIZATION OF STYRENE ON CELLULOSE. Rept. 11 of Investigation on Vinyl Polymerization. Oct 62, 9p. (figs. omitted) 4 refs.
Order from SA $15.00 SA Code-G21

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 1, p. 88-92.

DESCRIPTORS: *Cellophane, *Styrenes, *Vinyl radicals, Copolymerization, Graft polymers, Catalysts, Nitric acid.

Ishii, Yoshiro, Sekiguchi, Jinen, and Hattori, Masaaki.
POLYMERIZATION OF PROPYLENE OXIDE WITH METAL ALKOXIDES. Rept. 2 of Studies on the Polymerization of Epoxy-Compounds. Oct 62, 31p. 12 refs.
Order from SA $30.00 SA Code-G564

Trans. in manuscript of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 8, p. 1497-1501.

DESCRIPTORS: *Epoxides, *Propenes, Oxides, Polymerization, Catalysts, Magnesium compounds, Cobalt compounds, Iron compounds, Aluminum compounds, Lithium compounds.

Murai, Korenori and Ito, Tadashi.
POLYOLEFINE COMPOSITES OF IMPROVED QUALITY. Oct 62, 5p.
Order from SA $15.00 SA Code-P47

Trans. of published Japanese patent 10487/1961, 13 July 61, cl. 25-H-O (25-A-1), appl. no. 7690/1959, 13 Mar 59, by Mitsui Chemical Industrial Co.

DESCRIPTORS: *Epoxy resins, *Ethylenes, Manufacturing methods, Phosphorus acid.

Niiho, Kisaburo, Matsukawa, Kenzo and others.
MANUFACTURING PROCESS OF POLYOLEFINE LAMINATED CELLOPHANE. Oct 62, 7p.
Order from SA $15.00 SA Code-P49

Trans. of published Japanese patent 9990/1961, 8 July 61, cl. 25-J-322 (25-A-23), appl. no. 13052/1959, 22 Apr 59, by Dainihon Cellophane Co.

DESCRIPTORS: *Plastic films, Manufacturing methods, Laminates, *Ethylenes, *Imines, Adhesion, Impregnation.

Sobue, Hiroshi, Tabata, Yoneho, and Oda, Eisuke.
RADIATION-INDUCED POLYMERIZATION OF METHACRYLONITRILE. Oct 62, 6p. (figs. omitted) 3 refs.
Order from SA $15.00 SA Code-G284

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 2, p. 378-379.

DESCRIPTORS: *Acrylonitriles, Polymerization, *Radiation effect, Inhibition, Viscosity, Infrared spectroscopy.

Tanaka, Hisao.
THE EFFECT OF OXYGEN ON THE GELATION OF UNSATURATED POLYESTER RESIN. Oct 62, 7p. (figs. omitted) 2 refs.
Order from SA $15.00 SA Code-G290

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 2, p. 396-398.

DESCRIPTORS: *Esters, Polymers, Resins, *Styrenes, *Gels, Oxygen, Preservation, Carbon dioxide, Rare gases.

MATHEMATICS

REFERATIVNYI ZHURNAL. MATEMATIKA (USSR) 1960, NOS. 3-7, ABSTRACTS 2576-8239: SELECTED TRANSLATIONS OF ABSTRACTS OF ARTICLES BY CHINESE AUTHORS, JPRS: 9429.
Order from OTS or SLA $9.60 61-23595

Complete translations of the Russian-language abstracts of articles originally published in the Sino-Soviet bloc.

DESCRIPTORS: *Abstracts, *Bibliography, Mathematics, China, Algebra, Applied mathematics, *Complex variables, Differential equations, Functional analysis, Intergral equations, Number theory, Numerical analysis, Probability, Real variables, Topology.

Toma, Victor.
ELECTRONIC COMPUTERS IN THE NATIONAL ECONOMY. 22 Oct 62 [7]p. JPRS: 15813.
Order from OTS or SLA $1.10 62-33521

Trans. of Contemporanul (Rumania) 1962, no. 35(829) 31 Aug, p. 1 and 7.

DESCRIPTORS: *Digital computers, Computers, Production, Operation, Economics, *Rumania.

MECHANICS

Akhiezer, A. I., Lyubarskii, G. Ya., and Polovin, R. V.
EVOLUTION DISCONTINUITIES IN MAGNETOHYDRODYNAMICS. [1961] [17]p. 8 refs.
Order from OTS or SLA $1.60 AEC-tr-4703

Trans. of mono. Evolyutsionnye Razryavy v Magnito[i] Gidrodinamike, Khar'kov, 1960 [p. 8-24].

DESCRIPTORS: *Magnetohydrodynamics, *Shock waves, Propagation, Perturbation theory, Partial differential equations, Integral transforms.

It is shown that magnetohydrodynamic shock waves will be non-evolutionary and should split up into several shock and self-similar waves, if the total number of magnetoacoustic, Alfven, and entropy shock waves which diverge from the discontinuity front is not equal to six.

Buznikov, N. F.
THE MAGNITUDE OF ICE PRESSURE ON A BRIDGE PIER UNDER RIVER FLOW CONDITIONS. [1962] 5p.
Order from ATS $7.50 ATS-08P62R

Trans. of Gidrotekh[nicheskoe] Stroitel['stvo] (USSR) 1933 [v. 4] no. 2, p. 29-30.

DESCRIPTORS: *Bridges, *Piers, *Ice, Pressure, Hydraulic research.

Filippova, G. P. and Ishkin, I. P.
THE VISCOSITY OF AIR, NITROGEN, AND ARGON AT LOW TEMPERATURES AND PRESSURES TO 150 ATMOSPHERES. 5 Apr 62 [9]p. 8 refs. FTD-TT-62-113.
Order from OTS or SLA $1.10 62-25819

Unedited rough draft trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 3, p. 105-109.

DESCRIPTORS: Gases, *Air, *Nitrogen, *Argon, *Viscosity, Pressure, Temperature, Low temperature research, Low pressure research.

A new comparative method was used for determining the viscosity of gases at temperatures from 20 to -196°C and pressures to 150 atm. The gas flows through two capillaries. One of the capillaries is the working one and the gas flows through it at the given pressure and temperature. The other is the comparative capillary, the gas flowing through it at a pressure close to atmospheric pressure and at room temperature. The desired viscosity is proportional to the ratio of the pressure drops in the capillaries. The results of measurements of the viscosity of air and argon are tabulated.

Lyu, Yan'-chzhu.
ON THE DYNAMICS OF A DAMPING GYROSCOPE. 2 May 62 [15]p. (Eng. summary omitted) 2 refs. FTD-TT-62-434.
Order from OTS or SLA $1.60 62-25744

Unedited rough draft trans. of Moscow U. Vestnik. Seriya 1: Matematika, Mekhanika (USSR) 1961 [v. 16] no. 4, p. 48-57.

DESCRIPTORS: *Gyroscopes, Damping, Dynamics, Mathematical analysis.

Lyubarskii, G. Ya.
KINETIC THEORY OF SHOCK WAVES, tr. by Robert McCollum. [1961] [7]p. 1 ref.
Order from OTS or SLA $1.10 AEC-tr-4741

Trans. of mono. K Kineticheskoi Teorii Udarnykh Voln, Khar'kov, 1960 [p. 58-63].

DESCRIPTORS: *Shock waves, *Kinetic theory, Propagation.

The structure of a low-intensity shock wave in a neutral ideal gas is found, taking collisions into account. At small distances from the wave front, the structure is virtually the same as in hydrodynamic theory, with kinetic coefficients taken into account. At great distances, the structure of the wave is different.

Meincke, H.
COLLAPSING PRESSURE AND STRESSES IN CYLINDRICAL SHELLS UNDER EXTERNAL PRESSURE. [1962] 14p.
Order from ATS $17.75 ATS-69P62G

Trans. of V[erein] D[eutscher] I[ngenieure]. Zeitschrift (West Germany) 1962, v. 104, no. 7, p. 317-323.

DESCRIPTORS: *Cylindrical bodies, Deformation, Pressure, Stresses, Load distribution.

Sarkisyan, V. S.
THE TORSION OF ANISOTROPIC PRISMATIC RODS HAVING A CROSS SECTION IN THE FORM OF AN ELONGATED AERO-NAUTICAL PROFILE. 31 May62 [33]p. 22 refs. FTD-TT-62-384.
Order from OTS or SLA $3.60 62-32284

Unedited rough draft trans. of Akademiya Nauk Armyanskoi SSR [Erevan]. Izvestiya. Seriya Fiziko-Matematicheskikh Nauk, 1961, v. 14, no. 2, p. 45-70.

DESCRIPTORS: *Prismatic bodies, *Rods, Anisotropy, Torque, Aerodynamic configurations, Stresses, Mechanical properties, Elasticity, Deformation.

The method of the smallest parameters is used to obtain expressions of the functions of stress, rigidity, and tangential stress, and the maximum stresses are determined. Problems are investigated of the accuracy of the approximate formulas for torsional rigidity. The results are illustrated by numerical examples. Results are obtained for the torsion of anisotropic rods having cross sections in the form of an elongated parabolic crescent, a parabolic segment, and a semi-cubical parabola.

Tollmien, W.
CONTRIBUTION TO THE THEORY OF TURBULENCE. [1962] 8p.
Order from K-H $10.00 K-H 6641 i

Trans. of mono. International Congress of Applied Math[ematics and Mechanics] (no. 3) 1930. [Proceedings] v. 1, p. 105-108.

DESCRIPTORS: *Turbulence, Theory.

Vorotnikova, M. I.
EFFECT OF THE HEAT-EMISSION RATE IN AN UNDERWATER ELECTRIC EXPLOSION ON THE DISTRIBUTION OF THE EXPLOSION ENERGY. 29 June 62, 4p. AID rept. 62-89.
Order from OTS or SLA $1.10 62-32112

Abstract trans. of Zhurnal Prikladnoi Mekhaniki i Tekhnicheskoi Fiziki (USSR) 1962, no. 2, p. 110-112.

DESCRIPTORS: *Underwater explosions, Explosions, *Electric discharges, Sparks, Heat transfer, Energy, Distribution, *Shock waves, *Electroforming, Explosive forming.

Aerodynamics and Pneumatics

Koryavov, P. P.
NUMERICAL CALCULATION OF HIGH TEMPERATURE LAMINARY FLOWS. 26 Mar 62 [17]p. (1 Eng. ref. omitted) 1 ref. FTD-TT-62-234.
Order from OTS or SLA $1.60 62-24038

Unedited rough draft trans. of Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki (USSR) 1961, v. 1, no. 5, p. 856-868.

DESCRIPTORS: *Jet mixing flow, *Laminar boundary layer, Temperature, Velocity, Gases, Dissociation, Numerical analysis, Displacement reactions, Compressible flow, Viscosity.

A method is described for numerical calculation of temperature and velocity profiles in the zone where two semi-infinite flows are mixed. The obtained dependence of width and position of temperature and velocity zones of mixing and zero current line from the velocity/temperature ratio of mixing streams. The calculations were conducted with consideration, and without consideration of dissociations in the gas. The obtained results show the effect of dissociation consideration in the gas on the width and position of the temperature and velocity mixing zones, as well as the effect on the zero current line.

Plekhov, I. M., Vavilov, A. A. and others.
AN APPROXIMATION METHOD OF CALCULATING SINGLE-ACTING MECHANISMS [AND] A POTENTIOMETER SERVO SYSTEM WITH COMPENSATION OF DYNAMIC ERRORS. 20 June 62 [25]p. 8 refs. FTD-TT-62-325.
Order from OTS or SLA $2.60 62-25738

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Priborostroenie (USSR) 1961, v. 4, no. 2, p. 52-66.

DESCRIPTORS: *Pneumatic servomechanisms, Pneumatic devices, Operation, Load distribution, Numerical analysis, *Potentiometers, *Servo systems, Circuits, Effectiveness, Transients, Errors.

The results of the theoretical and experimental investigations of a potentiometer-type servo system with compensation of dynamic errors show that in this system it is possible to ensure full compensation of the steady-

state and considerable reduction of the transient dynamic error by using compensating circuits in the main feedback and at the input of the system. (Author)

Rumynskii, A. N. and Mezhirov, I. I.
HEAT TRANSFER AT THE NOSE OF A BODY WASHED BY A RADIATING MEDIUM [AND] GAS FLOW IN A CHANNEL IN THE PRESENCE OF HEAT TRANSFER. 4 June 62 [24]p. 13 refs. FTD-TT-62-115.
Order from OTS or SLA $2.60 62-32279

Unedited rough draft trans. of Akademiya nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Mekhanika i Mashinostroenie, 1961, no. 1, p. 96-106.

DESCRIPTORS: *Heat transfer, *Thermodynamics, Blunt bodies, *Fluid flow, Boundary layer, Viscosity, *Thermal radiation, *Gas flow, Pipes, Hypersonic flow, Supersonic flow, Subsonic flow.

The effect is examined of radiation on convection heat transfer near the forward stagnation point of an axisymmetric blunt body past which a radiating and absorbing gas flows with hypersonic velocity. As a result of radiation heat transfer a temperature gradient occurs throughout the shock layer. Therefore the problem of heat transfer is examined on the basis of a full integral-differential system of equations that describes flow in the viscous boundary layer and in the region between the outer edge of the boundary layer and the shock wave. This system is reduced to a system of ordinary differential equations; the methods of solving these are developed quite fully, disregarding the influence of radiation. These solutions as the zeroth approximation are used to solve the problem of heat transfer in a radiating medium. (Rumynskii) The essential quantitative difference between the effects of heat transfer upon the gasflow characteristic at subsonic and at high supersonic speeds is established by examining the steady-state one-dimensional flow of a perfect nonviscous gas. (Mezhirov)

Weinig, Fritz.
RESISTANCE AND AIRFOIL WING PROFILES WITH SPECIFIED VELOCITY DISTRIBUTION AT THE SURFACE. [1962] 5p.
Order from K-H $6.25 K-H 6641-f

Trans. of Zei[tschr[ift] f[ür] Angew[andte] Math[ematik] und Mech[anik] (Germany) 1929, v. 9, no. 6, p. 507-509.

DESCRIPTORS: *Airfoils, Wings, Resistance, Velocity, Aerodynamics.

METALLURGY

[HOT MELT-FORMING (Goryachaya Obrabotka Metallov)]. 21 Oct 60 [104]p. MCL-357/1; AD-257 119.
Order from OTS or SLA $9.10 61-23633

Trans. of mono. Avtomatizatsiya Mashinostroitel'nykh Protsessov. [Trudy Soveshchaniya] [Automation of Machine-Building Processes. [Proceedings of Conference no. 2] Moscow, 1959, v. 1, p. 76-85, 115-125, 266-275, 280-289, 322-329, 344-347.

DESCRIPTORS: *Industrial research, *Automation, Machines, Welding, Arc welding, Casting, Plastic flow, Theory, Production, *Manufacturing methods, Precision finishing, Metals, Alloys, Steel, Aluminum alloys, Magnesium alloys, Titanium alloys, Stainless steel, Heat resistant alloys, Processing. Electric welding.
Contents:
The precision of large-size castings and methods of manufacturing them, by V. O. Yakovlev
Theory of plastic flow and some of its applications, by A. A. Il'yushin
Automatic control of resistance welding processes, by D. C. Balkovets and P. L. Chuloshnikov
Research of the Bauman Higher Technical School in Moscow on the subject of welding processes, by G. A. Nikolaev
Automation of gas shielded-arc welding, by V. R. Verchenko
Automatic welding of aluminum and aluminum alloy items, by D. M. Rabkin.

POWDER METALLURGY IN SOVIET MACHINE BUILDING. 22 Oct 62 [10]p. JPRS: 15807.
Order from OTS or SLA $1.10 62-33523

Trans. of Mashinostroenie (USSR) 1962, no. 3, p. 3-6.

DESCRIPTORS: *Machines, Construction, *Powder metallurgy, Manufacturing methods, *Iron compounds, *Graphite, *Metal plates, Friction, *Clutches, *Metal forming presses.

Contents:
Experience in the application of powder metallurgy, by R. N. Gareev
Manufacture of iron-graphite friction plates for clutches of heavy mechanical presses, by A. V. Podmazov and V. N. Mishchenko.

Brainin, I. E., Bornatskii, I. I., and Alferov, K. S.
ACCRESCIMENTO DELLA DURATA DELLE LINGOTTIERE DI GRANDI DIMENSIONI CON l'AUSILIO DI RINFORZI (Increasing Life of Large Ingot Molds by Banding). 16p. CNP-26. (text in Italian).
Order from OTS or ETC $1.85 62-26098

Trans. of Stal' (USSR) 1958, v. 18, no. 3, p. 267-270.

DESCRIPTORS: *Molds, *Castings, Stresses.

Bublei, E. E. and Lyulicheva, N. N.
A SIMPLE CRYOSTAT FOR METALLOGRAPHIC INVESTIGATIONS, tr. by Donald C. Rich. 12 July 62 [3]p. 1 ref. AOMC Trans. 29-61.
Order from OTS or SLA $1.10 62-32244

Trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1960, v. 5, no. 4, p. 576-577.

DESCRIPTORS: *Cryostats, Alloys, Low temperature research, Metallurgical analysis, Laboratory equipment.

The cryostat is a cylindrical-shaped Dewar vessel having a flat, transparent bottom through which observations can be made. (Author)

Fetodiev, N. P., Ostrumova, N. M., and Vietsheslavov, P. M.
PLACCATURA IN ORO (Gold Plating) 8p. 7 refs. CNP-1. (text in Italian).
Order from OTS or ETC $0.90 62-26080

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1959, v. 29, no. 4, p. 489-494.

DESCRIPTORS: *Gold plating.

Gilles, J. W.
BLOOMERY HEARTHS FOUND IN SETTLEMENTS OF ROMAN AGE IN THE AHRWEILER FOREST: REPORT OF EXCAVATIONS MADE DURING 1959-60. Aug 62.
Order from BISI £ 2 5s BISI-2638

Trans. of Stahl und Eisen (West Germany) 1961, v. 81 [no. 16] p. 1069-1072.

DESCRIPTORS: *Slags, Ores, Geophysical prospecting, Forestry.

Gol'denberg, L. I.
SULLA QUALITÀ DELLA GHISA DA FONDERIA (Quality of Foundry Irons Made in Blast Furnaces) 14p. CNP-22. (text in Italian)
Order from OTS or ETC $1.85 62-26076

Trans. of Liteinoe Proizvodstvo (USSR) 1958, no. 9, p. 7-8.

DESCRIPTORS: Iron alloys, Blast furnaces, *Iron castings, *Manganese, *Silicon, Specifications, Standards.

Harveng, I. and Landgraf, H.
STUDY OF THE MECHANICAL STRENGTH OF SINTERS. [1962].
Order from BISI £ 2 15s BISI-2650

Trans. of Rev. Periodiques Techniques [sic] 1961, Dec, p. 745-753.

DESCRIPTORS: *Sinters, Mechanical properties, Tests, Blast furnaces, Storage.

Kantor, P. B., Krasovitskaya, R. M., and Kisel', A. N.
DETERMINING THE ENTHALPY AND SPECIFIC HEAT CAPACITY OF BERYLLIUM IN THE INTERVAL 600-2, 200° K. 27 June 61 [7]p. 7 refs. MCL-950/1. AD-261 792
Order from OTS or SLA $1.10 61-27403

Unedited rough draft trans. of #Fizika Metallov i Metallovedenie (USSR) 1960, v. 10, no. 6, p. 835-837.

DESCRIPTORS: *Beryllium, Enthalpy, Specific heat, Determination, Liquid metals, Calorimeters.

Preigerzon, Sh. I.
THE WORK OF THE HEAT TREATMENT AND PHYSICAL METALLURGY SECTION OF THE REPUBLIC CONFERENCE (No. 7) IN MINSK, 26-28 Feb 62. 16 Oct 62 [6]p. JPRS: 15744.
Order from OTS or SLA $1.10 62-33463

Trans. of #Metallovedenie i Termicheskaya Obrabotka Metallov (USSR) 1962, no. 7, p. 64-65.

DESCRIPTORS: *Conferences, *Heat treatment, *Metallurgy.

Presnyakov, A. A.
STUDY OF ANOMALIES IN THE DUCTILITY OF METALLIC ALLOYS (Izuchenie Anomalii Plastichnosti Metallicheskikh Splavov). 16 Oct 62 [10]p. JPRS: 15743.
Order from OTS or SLA $1.10 62-33431

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 7, p. 60-63.

DESCRIPTORS: Metals, *Alloys, *Ductility, Crystal structure.

Rutkovskii, M. L., Anufrieva, N. A. and others.
KINETICS OF VAPOR BORIDING OF NICKEL. 19 Mar 62 [12]p. 17 refs. FTD-TT-62-233.
Order from OTS or SLA $1.60 62-24347

Unedited rough draft trans. of #Fizika Metallov i Metallovedenie (USSR) 1961, v. 12, no. 2, p. 217-222.

DESCRIPTORS: *Nickel alloys, Surfaces, *Boron alloys, Hydrogen, Chemical reactions, *Borides, Metal films, Phase studies, Thickness, Diffusion, Chlorine, Erosion, Resistance, Microstructure, Hardness, Gas flow, Exchange reactions, Chemical analysis, *Vapors, *Kinetic theory, High temperature research, Vapor plating.

A linear dependence between the thickness of the metal spent for the formation of the boride film and the time of boriding (for a layer thickness of 0.8 mm) was observed during vapor boriding of nickel (900°). The film of borides which formed on the nickel surface consists of three layers having different microhardnesses. The diffusion of the boriding agent from the vapor phase to the surface of the specimen is the limiting stage of the boriding process of nickel by a mixture of BCl_3+H_2 at 900°. It is possible that the boriding agent is not the boron trichloride but a compound which is formed during the reaction of boron with hydrogen. Nickel chlorides are not formed when boriding nickel with a mixture of $BCl_3 + H_2$. (Author)

Skuin, D
INVESTIGATION OF THE "AS-CAST" STRUCTURE OF A CONICAL 49-TON FORGING INGOT. Oct 62.
Order from BISI £ 2 BISI-2949

Trans. of Neue Hütte (East Germany) 1962, v. 7 [no. 7] p. 408-411.

DESCRIPTORS: *Forging, *Castings, Metallurgy.

Shveikin, V. V.
THE IDEAL SHAPE FOR A PIERCING MILL PLUG. [1962].
Order from BISI £ 4 5s BISI-2785

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. [Mashinostroenie] (USSR) 1960, no. 8, p. 81-87.

DESCRIPTORS: Cylindrical bodies, *Pipes, *Milling machines, *Machine tools, Design, *Steel tubing, Rods, Equations, Configuration, Production.

Wahlmann, O.
ULTRASONICS AND THE CLEANING OF METAL COMPONENTS. [1961].
Order from BISI £ 2 BISI-2247

Trans. of Norsk Galvano-Teknisk [sic] 1961, v. 4, no. 1, p. 6-8.

DESCRIPTORS: *Metals, *Cleaning, *Ultrasonics, Vibration.

Ferrous Metals

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 76. 17 Oct 62 [37]p.
JPRS: 15756.
Order from OTS or SLA $3.60 62-33461

Trans. of Ekonomicheskaya Gazeta (USSR) 1962 no. 31[52] p. 1-4, 37; and from Pravda, Moscow (USSR) 1962, 4 Aug, p. 2; Leninskoe Znamya (USSR) 1962, 26 July, p. 3; Sovetskaya Kirgiziya (USSR) 1962, 8 Aug, p. 3; Sovetskaya Latviya (USSR) 1962, 9 Aug, p. 2; Pravda Ukrainy (USSR) 1962, 28 July, p. 2; 31 July, p. 3.

DESCRIPTORS: *Industrial production, *Metallurgy, Iron, Industrial plants, *Powder metallurgy, *Transportation, *Ores, *Smelting.

Contents:
Utilization of metal shavings, by D. Dobrvanskii
Utilization of scrap iron, by F. Kharlamov
Advances at the magnitogorsk combine, by S. Bursanovskii
Advantages of power metallurgy, by A. Godes
Reduction of transportation outlays, by N. D'yakov
Lagging construction of the Metallurgical Plant imeni Il'ich in Zhdanov
Automation of krivoi rog ore concentration mills, by F. Alakseev and V. Chumakov
Economics of iron ore concentration and smelting, by V. Andreev.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 77. 22 Oct 62 [59]p.
JPRS: 15815.
Order from OTS or SLA $5.60 62-33520

Trans. of #Metallurg (USSR) 1962 [v. 7] no. 7, p. 3, 7-8; Ekonomicheskaya Gazeta (USSR) 1962, no. 30[51] p. 17; no. 33[54] p. 12; and from Stroitel'naya Gazeta (USSR) 1962, 1 Aug, p. 3; Pravda Ukrainy (USSR) 1962, 30 June, p. 2; Sovetskaya Rossiya (USSR) 1962, 27 July, p. 2; Trud, Moscow (USSR) 1962, 19 July, p. 1; 22 July, p. 2.

DESCRIPTORS: *Metallurgy, *Industrial research, Construction, Blast furnaces, Production, Quality control, *Cast iron, Ores, *Sintering, *Scheduling, Industrial plants, Maintenance, Operation, Economics, *Steel, Rolling mills, Smelting, Automation, Metallurgy, Industry, *Slags, Processing, Electric welding.

Contents:
Progress of top priority industrial construction projects during the first half of 1962
Poor quality of sintered ore affects blast furnace production, by R. Kamenev and V. Burdyukov
Construction of top priority projects is lagging, by V. Robotov
Dneprodzerzhinsk blast furnace establishes record for uninterrupted operation, by S. Grigor'ev
Leningrad steel rolling plant increases output, by B. Moiseev
Automation of the steel smelting process, by I. N. Golikov
Recent important developments in the Ukrainian ferrous metallurgy industry, by I. I. Borantskii and N. A. Tereshchenko
Increased rolling mill production due to rebuilding and mechanization, by V. Bairakov
The slag-electric steel smelting process, by G. Sergeev.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 78. 23 Oct 62 [18]p.
JPRS: 15849.
Order from OTS or SLA $1.60 62-33599

Trans. from Sovetskaya Rossiya (USSR) 1962, 7 Sep, p. 1 and Zarya Vostoka (USSR) 1962, 3 Aug, p. 2.

DESCRIPTORS: *Iron, Supplies, Metallurgy, *Iron industry, *Industrial production, Blast furnaces, Automation, Steel, Industrial research.

Contents:
Supplies of scrap iron are insufficient, by V. Romanov
Improvements and advances at the Rustavi metallurgical plant, by S. Sharadzenidze.

Bassi, G.
ELECTROLYTES FOR THE POLISHING AND ETCHING OF AUSTENITIC Cr-Ni AND Mn STEELS. June 61, 500 words.
Order from HB $2.25 HB-5164

Trans. of Metallorberfläche (West Germany) 1961, v. 52 [sic] no. 2, p. 141-142.

DESCRIPTORS: *Steel, *Stainless steel, Magnesium alloys, Nickel alloys, Chromium alloys, Austenite, Photoengraving, Electrolytic polishing, Electrolytes.

Benesovsky, F. and Hotop, W.
THE EFFECT OF BORON ON LIQUID-PHASE FORMATION IN SINTERED STEEL, ESPECIALLY 18Cr-8Ni TYPES. 23 May 58 [11]p. 12 refs.
Order from SLA $1.60 61-18390

Trans. of Stahl und Eisen (West Germany) 1958, v. 78, no. 3, p. 149-152.

DESCRIPTORS: *Steel, *Boron alloys, Nickel alloys, Chromium alloys, Sintering, Tensile properties, Hardness, Density, Microstructure, *Powder metallurgy, *Corrosion-resistant alloys.

By additions of a low melting Ni-Cr-B alloy with about 4.2%B, 18%Cr and 72%Ni, acting as liquid phase during sintering, it has been found possible to produce, from commercial iron powders, sintered alloy steels of high hardness, strength and toughness. An addition of Ni-Cr-B alloy is particularly effective in the sintering of stainless 18%Cr-8%Ni powders. In these steels, Ni-Cr-B additions up to 2% increase not only the tensile strength, hardness and density, but at the same time the elongation. Materials made in this way are corrosion and scaling-resistant. The materials investigated are of use for high strength machine and equipment components and for applications required a combination of high corrosion and scaling resistance with high wear-resistance. (Author)

Bobrovskikh, S. M. and Nikolaev, A. G.
DURALA DELLE LINGOTTERIE DI GHISA COMPLESSO METALLURGICO DI MAGNITOGORSK (Life of Steel Ingot Molds). 12p. CNP-18. (text in Italian).
Order from OTS or ETC $1.85 62-26073

Trans. of Stal' (USSR) 1957, v. 17, no. 1, p. 84-88.

DESCRIPTORS: *Steel, *Molds, *Castings, Silicon.

Brainin, I. E. and Shapovalov, S. I.
INFLUENZA DELLA COMPOSIZIONE DELLA CARICA E DELLA COMPOSIZIONE CHIMICA DELLA GHISA SULLA DURATA DELLE LINGOTTIERE (Influence of the Composition of the Load and the Chemical Composition of the Cast Iron on the Duration of the Ingot Mold) 27p. 25 refs. CNP-20. (text in Italian).
Order from OTS or ETC $2.39 62-26097

Trans. of Stal' (USSR) 1956, no. 12, p. 1110-1115.

DESCRIPTORS: *Castings, Molding, Cast iron.

Bulsky, M. F., Sviridenko, F.F. and others
LINGOTTO DEL PESO DI 9.75 TONNELLATE PER LA FABBRICAZIONE DI ROTAIE (Ingot of the Weight of 9.75 t. for the Manufacture of Rails). 22p. 3 refs. CNP-28. (text in Italian).
Order from OTS or ETC $1.89 62-26100

Trans. of Stal' (USSR) 1957, no. 4, p. 305-310.

DESCRIPTORS: *Railroad tracks, Castings.

Colmant, R.
OXYGEN REFINING OF STEEL BY THE KALDO PROCESS. Oct 62.
Order from BISI £4 5s BISI-2980

Trans. of Annales des Mines (France) 1962, v. 167, Mar, p. 121-132.

DESCRIPTORS: *Steel, Refineries, Oxygen, *Furnaces.

Dekker, T. T., Apperloo, M., and Wittich, L. E.
THE PRETREATMENT OF STEEL FOR EPOXY COATINGS. Sep 62, 3000 words.
Order from TTIS $27.00 TTIS 2382

Trans. of Industrie-Lackier-Betrieb (West Germany) 1962, v. 30, Apr, p. 109-113.

DESCRIPTORS: *Steel, Processing, Coatings, *Epoxides, *Epoxy resins, Plastics, *Plastic coatings.

Feigin, G. D.
THE ECONOMIC EFFICIENCY OF ROLLING LIGHT SECTIONS: COMMENT ON L. L. ZUSMAN'S PAPER. Nov 58 [4]p. 1 ref. BISI Trans. 1117; NLL M. 4311.
Order from OTS or SLA $1.10 62-24194

Trans. of Stal' (USSR) 1958 [v. 18] no. 7, p. 652-653 (original article pub. in Stal' (USSR) 1956 [v. 16] no. 12, p. 1099-1103).
Trans. of original article available from OTS or SLA $1.60 as 62-24201, BISI-1116, Feb 59 [11]p.

DESCRIPTORS: *Iron industry, *Steel industry, *Rolling mills, Production, Economics.

Fomin, S. F.
TEORIA ENERGETICA DELLE FORMAZIONE DI CRICCHE NELLE LINGOTTIERE IN GHISA (Energic Theory of Cast Iron Molds Cracking). 27p. 3 refs. CNP-18. (text in Italian).
Order from OTS or ETC $2.39 62-26074

Trans. of Stal' (USSR) 1955, no. 8, p. 743-747.

DESCRIPTORS: *Molds, *Castings, Stresses, Deformation, Elasticity, Theory.

Gulyaev, V. N., Akol'zin, P. A. and others.
THE CORROSION CRACKING OF 1Kh18N9T STEEL IN CAUSTIC SODA AND SODIUM CHLORIDE SOLUTIONS (Korrozionnoe Rastreskivanie Stali 1Kh18N9T v Rastvorakh Edkogo Natra i Khloristogo Natriya). July 62 [14]p. 4 refs. RTS 2082.
Order from OTS or SLA $1.60 62-25463

Trans. of Teploenergetika (USSR) 1961 [v. 8] no. 9, p. 50-55.

DESCRIPTORS: *Steel, Stresses, Corrosion, Fracture (Mechanics), Solutions, Sodium compounds, Hydroxides, Chlorides.

The method and the results of the investigation of corrosion cracking of 1Kh18N9T steel in caustic soda solutions and in solutions containing various amounts of chlorine ions and of oxygen are presented. (Author)

Ivantsov, G. P. and Polyak, B. T.
THE COOLING METHOD WHICH CAUSES THE LEAST THERMAL STRESSES IN THE SHELL OF THE CONTINUOUSLY CAST FLAT BILLET. [1962].
Order from BISI £5 BISI-2819

Trans. of Referativnyi Zhurnal. [Metallurgiya] (USSR) 1961, no. 7, p. 139-149.

DESCRIPTORS: *Castings, *Steel castings, Thermal stresses, Cooling, Molding, Rolling mills.

Komandin, N. L.
EXAMINATION OF THE QUALITY OF CONTINUOUSLY CAST METAL. Paper from All-Union Conference [on the Continuous Casting of Steel] (no. 1) 17-19 Oct 55. Apr 60 [18]p. BISI Trans. 1611, [DSIR] NLL M. 4936.
Order from OTS or SLA $1.60 62-25881

Trans. of mono. [Nepreryvnaya Razlivka Stali] (The Continuous Casting of Steel) Moscow, 1956, p. 73-83.

DESCRIPTORS: *Steel, Casting, *Steel castings, Metal, Quality control, Conferences, Mechanical properties, Stresses, Fracture (Mechanics), *Liquid metals.

The mechanical properties of continuously cast "ingots" and of metal deformed by normal degrees of reductions are the same. Cracks in ingots are completely welded up during hot working even with the smallest amounts of reduction. Cracks are caused by quite high stresses which arise in the ingot during the final period of crystallization. Crack formation can be reduced by controlling withdrawal speed and the amount of water used for secondary cooling. The optimum parameters of these values can be found by studying the operational conditions of casting and the quality of the liquid metal. Metal produced in continuous casting machines of the vertical type has high mechanical properties which enable it to be used without any limitations in engineering, shipbuilding and other branches of industry. (Author)

Molinder, G.
ISOTHERMAL TRANSFORMATION DIAGRAMS FOR SOME STANDARDIZED SWEDISH CASE-HARDENING STEELS. [1961].
Order from BISI £ 2 10s BISI-1957

Trans. of Jernkont[orets] Tekn[ista] Råd (Sweden) 1960, no. 260, p. 711-722.

DESCRIPTORS: *Steel, Hardening, Transformations, Phase transitions, Standardization, Sweden.

Pospelov, G.
GREAT PROSPECTS FOR A STRONG SIBERIAN IRON-ORE BASE. USSR Industrial Development Soviet Ferrous Metallurgy no. 67. 4 Sep 62 [38]p. JPRS: 15091.
Order from OTS or SLA $3.60 62-32877

Trans. of Sibirskie Ogni (USSR) 1962 [v. 41] no. 5, p. 146-160.

DESCRIPTORS: *Industrial production, Metallurgy, *Mining engineering, Geophysical prospecting, *Iron, *Ores, *Siberia.

Sofroni, L. and others.
QUALITY OF GRAY IRON IMPROVED BY FLUSHING THE LIQUID CUPOLA METAL WITH NATURAL GAS. Aug 62, 4300 words.
Order from HB $14.85 HB-5622

Trans. of Metalurgia si Constructia de Masini (Rumania) 1962, v. 14, no. 1, p. 4-13.

DESCRIPTORS: *Cast iron, Iron, Liquid metals, Metals, Mechanical properties, Physical properties, *Natural gas, Metallurgy.

Utevskii, L. M.
TEMPER BRITTLENESS OF STEEL. 22 May 62 [13]p. (illus. omitted) 25 refs. FTD-TT-62-513.
Order from OTS or SLA $1.60 62-25350

Unedited rough draft trans. of #Metallovedenie i Termicheskaya Obrabotka Metallov (USSR) 1961, no. 6, p. 35-41.

DESCRIPTORS: *Steel, Heat treatment, Brittle materials, Microstructure, Carbides, Alloys.

Zotova, E. V.
INFLUENZA DEGLI ELEMENTI DI LEGA SULLE PROPRIETA DELL'ACCIAIO AL CROMO-NICKEL-MOLIBDENO-RAME (Effect of Alloying Elements on the Properties of Chromium-Nickel-Molybdenum-Copper Steel). 24 p. 9 refs. CNP-31. (text in Italian)
Order from OTS or ETC $1.93 62-26103

Trans. of Stal' (USSR) 1958, no. 6, p. 550-556.

DESCRIPTORS: *Steel, Copper alloys, Chromium alloys, Nickel alloys, Molybdenum alloys, *Corrosion-resistant alloys.

Nonferrous (except light) Metals

USSR INDUSTRIAL DEVELOPMENT: SOVIET NONFERROUS METALLURGY NO. 41. 8 Oct 62 [13]p. JPRS: 15599.
Order from OTS or SLA $1.60 62-33285

Trans. from Stroitel'naya Gazeta (USSR) 1962, 25 July; 1 Aug; 6 Aug.

DESCRIPTORS: *Metallurgy, *Industrial research, *Industrial plants, *Construction, *Aluminum compounds, Oxides, *Cements, *Apatite, *Scheduling.

Contents:
Delays in the construction of the Achinsk alumina-cement plant, by B. Pereberin and I. Novokhatskii
Inadequate progress in the construction of apatite-beneficiation facilities in Murmanskaya oblast
Shortcomings in Pavlodar construction projects plant, by A. Lomov and A. Portnoi.

Mes'kin, V. S., Popova, L. A. and others.
METHODS OF INCREASING PLASTICITY OF PALLADIUM ALLOYS WITH HIGH TUNGSTEN CONTENT (Sposob Povysheniya Plastichnosti Splavov Palladiya s Vysokim Soderzhaniem Volframa). 13 June 62 [4]p. FTD-TT-62-780.
Order from OTS or SLA $1.10 62-32399

Unedited rough draft trans. of [Soviet] patent 139450, appl. no. 675014/22. 30 July 60 (Byulleten' Izobretenii (USSR) 1961, no. 13).

DESCRIPTORS: *Palladium alloys, *Tungsten, *Plasticity, Degasification, Annealing.

Structural Metallurgy and Corrosion

COLD-ROLLED HOT-DIPPED TIN PLATE. May 62 [14]p. RTS 2023.
Order from OTS or SLA $1.60 62-25457

Trans. of Russian State Standard GOST 9488-60.

DESCRIPTORS: Tin coatings, *Tin plating, Surfaces, Corrosion inhibition, Plating, Corrosion.

Blanchard, P. and Troiano, A. R.
HYDROGEN EMBRITTLEMENT OF METALS: EFFECT OF CRYSTALLOGRAPHIC AND ELECTRONIC STRUCTURE. [1962] 22p.
Order from ATS $26.75 ATS-70P62F

Trans. of Rev[ue de] Mét[allurgie]. Mém[oires] Sci[entifiques] (France) 1960, v. 57, no. 6, p. 409-422.

DESCRIPTORS: *Metals, *Hydrogen embrittlement, Crystal structure.

Frischer, Hermann.
ALLOY RESISTANT TO HALOGEN ACIDS, ESPECIALLY HYDROCHLORIC ACID, tr. by J. R-P. 6 Aug 62, 4p.
Order from OTS or SLA $1.10 62-32923

Trans. of Swiss patent 159,988, cl. 76, appl. filed 22 Oct 31, pat. registered 15 Feb 33, pub. 17 Apr 33.

DESCRIPTORS: *Corrosion-resistant alloys, *Antimony, Iron, Manganese, Cobalt, Molybdenum, Tungsten, *Halogens, Acids, *Hydrochloric acid.

Sato, Seimi, Kato, Yoichi, and Hori, Mutsumi.
ON THE RUST-PREVENTIVE PROPERTIES OF THE DERIVATIVES OF THE MALEINATED OLEIC ACID. Oct 62, 13p. 13 refs.
Order from SA $18.00 SA Code-G441

Trans. of Kogyo Kagaku Zasshi (Japan) 1961, v. 64, no. 6, p. 1017-1020.

DESCRIPTORS: *Corrosion inhibition, Rusts, *Oleic acids, Maleic acid, Humidity, Chemical reactions, Purification.

Shvarts, G. L. and Volikova, I. G.
THE EFFECT OF THE VELOCITY OF THE MEDIUM ON THE CORROSION OF STEEL 1Kh18N9T. May 62.
Order from BISI $5 BISI-2293

Trans. of Vsesoyuz[nyi] Nauch[no]-Issled[ovatel'skii] i Konstr[uktorskii] Inst[itut] Khim[icheskogo] Mashinostr[oeniya]. Sbornik Statei (USSR) 1958, v. 25, p. 75-86.

DESCRIPTORS: *Corrosion research, *Steel, Stainless steel, Corrosion, Corrosive liquids.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

Chochlovsky, Igor; Kufner, Vladimir; and Novy, Frantisek.
THE LABORATORY OF THE VAN DE GRAAFF TYPE OF ACCELERATOR IN THE INSTITUE FOR NUCLEAR RESEARCH OF THE CECHOSLOVAK ACADEMY OF SCIENCES. 16 June 60 [10]p. 2 refs. USASIA: SC312a/60: JPRS: R-778-D.
Order from OTS or SLA $1.10 60-31272

Trans. of Jaderna Energie (Czechoslovakia) 1960, v. 6, no. 3, p. 80-82.

DESCRIPTORS: *Nuclear physics laboratories, Laboratories, *Particle accelerators, Accelerators, *Czechoslovakia.

This article describes the arrangement and the outfitting of the laboratory for the accelerator of the Van de Graaff type 5 MeV in a pressure vessel, of vertical design, of the Institute for Nuclear Research of the CSAV [Czeskoslovenska Akademie ved - Czechoslovak Academy of Sciences] in Rez near Praha. (Author)

Klumpar, J., Majerova, M., and Jirousek, P.
DETERMINATION OF SMALL CONCENTRATIONS OF RADIUM IN WATER BY SCINTILLATION MEASUREMENTS ON ELECTROSTATICALLY DEPOSITED DECAY PRODUCTS OF RADON. [1962] 8p.
Order from ATS $16.00 ATS-30P62C

Trans. of Jaderna Energie (Czechoslovakia) 1960, v. 6, p. 404-408.

DESCRIPTORS: *Radium, Determination, Water, Scintillation counters, *Radon, Radioactive decay, Electrodeposition.

Cosmic Rays

RESULTS OF COSMIC RADIATION RESEARCH IN HUNGARY. 1 Oct 62 [18]p. JPRS: 15524.
Order from OTS or SLA $1.60 62-33325

Trans. of Fizikai Szemle (Hungary) 1962, v. 12, no. 5, p. 138-143.

DESCRIPTORS: *Cosmic rays, Hungary, Radiation counters, Periodic variations, Scientific research.

Dorman, L. I.
COSMIC-RAY VARIATIONS UNDER THE GROUND AT SEALEVEL AND IN THE ATMOSPHERE (Variatsii Kosmicheskikh Luchei pod Zemli na Urovne Morya i v Stratosfere). 22 Nov 60, 123p. 46 refs. JPRS: 7168.
Order from OTS or SLA $10.10 61-11525

Trans. of [Kosmicheskie Luchi: Sbornik Statei] (USSR) 1959, no. 1, p. 7-58 (includes excerpt of article in Akad[emiya] Nauk SSSR. Doklady, 1958, v. 122, no. 5, p. 788-[791]##).

DESCRIPTORS: *Cosmic rays, Periodic variations, *Magnetic storms, Underground structures, Cosmic ray telescopes, *Stratosphere.

Contents:
Investigation of the cosmic-ray effect during the magnetic storm on August 29, 1957 from the data of the international network of IGY stations, by Ya. L. Blokh and others
Preliminary results of the investigation of cosmic-ray variations under the ground, by Ya. F. Blokh and others.
##The measurement of cosmic-ray variations in the stratosphere, by S. N. Vernov and others
Some problems in the theory of cosmic-ray variations, by L. I. Dorman and E. L. Feinberg.

Instruments and Installations

SOVIET NUCLEAR INSTRUMENTATION AND CONTROL FOR PROPULSION. Quarterly rept. no. 10 on AID Work Assignment no. 16c. 25 Jun 62 [22]p. 15 refs. AID rept. 62-80; AD-281 853.
Order from OTS or SLA $2.60 62-32356

DESCRIPTORS: Instruments, *Nuclear propulsion, Control systems, Electronic equipment, *Photomultipliers, Detectors, *Radiation counters, Crystal counters, Ionization chambers, *Electromechanical converters, Thermostats, *Pneumatic servomechanisms, Amplifiers, Transducers.

Contents:
Electronic equipment
Detectors
Electromechanical control components
Pneumatic control components
Miscellaneous related subjects.

Egorov, Yu. A. and Kucheryaev, V. A.
THE POSSIBILITY OF USING CERTAIN ORGANIC SCINTILLATORS FOR DOSIMETRY. 15 Aug 62 [6]p. 2 refs. FTD-TT-62-678; AD-284 143.
Order from OTS or SLA $1.10 62-33402

Unedited rough draft trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 7, p. 117-119.

DESCRIPTORS: *Dosimeters, *Scintillators, Organic compounds, *Plastics, Styrenes, Xylenes.

Kozman, I. M. and Tzimmer, K. G.
DAMAGE INDUCED IN PLASTIC SCINTILLATORS BY IONIZING RADIATION. [1962] 17p. (figs. some refs. omitted) 2 refs.
Order from OTS or SLA $1.60 62-16530

Trans. of #Atomnaya Energiya (USSR) 1957, v. 2, no. 1, p. 54-59.

DESCRIPTORS: *Scintillation counters, Plastics, *Styrenes, *Radiation damage, Luminescence, Single crystals.

Nuclear Engineering and Power

NUCLEAR ELECTRONICS (L'Électronique Nucléaire). Proceedings of the International Symposium on Nuclear Electronics Organized by the French Society of Radioelectricians [no. 1] Paris, 16-20 Sep 58. Feb 62, 509p.
Order from OTS $6.00 AEC-tr-4546

Trans. of mono. Comptes Rendus du Colloque International sur l'Électronique Nucléaire Organise par la Société Française des Radioélectriciens [no. 1] Paris, 1958, pub. Vienna, 1959.

DESCRIPTORS: *Nuclear engineering, *Electronics, *Scintillation counters, Boron, Slow neutrons, Crystal counters, Photomultiplers, *Radiation counters, *Gamma ray spectrometers, Cerenov radiation, Semiconductors, Rare gases, *Computers, Scalers, Coincidence counting, Neutron spectrometers, Pulse height analyzers, Pulse generators, Memory devices, *Reactor control, Thermal neutrons, Heavy water, Heat exchangers, Simulation, Nuclear power plants, Cooling, Accidents, Analog computers, *Geophysical prospecting, *Dosimeters, Radioactive isotopes, Carbon, Tritium, Plutonium, Radiobiology, Cosmic rays, Recording systems, *Transistors, Standardization, Circuits.

Contents:
Scintillation radiation detectors
Radiation detectors using ionizing methods and gamma ray spectrometers
Pulse technique: fast electronics
Pulse technique: classical electronics
Reactor control: measurements
Reactor control: simulation
Equipment for prospection and protection
Centralization and exploitation of results
Transistorized equipment, standardization and components

SOVIET BERYLLIUM PHYSICS REACTOR (BRF): REVIEW OF SOVIET LITERATURE. AID Work Assignment no. 16. 31 Aug 62 [17p. 3 refs. AID rept. 62-127; AD-284 759.
Order from OTS or SLA $1.60 62-33229

DESCRIPTORS: *Reactor moderators, *Beryllium, *Nuclear power plants, Design, Reactor control, Critical assemblies, Literature.

Aleksandrov, A.
PROBLEMS OF ATOMIC POWER ENGINEERING. 25 Apr 62 [13]p. FTD-TT-62-631.
Order from OTS or SLA $1.60 62-32298

Unedited rough draft trans. from Ekonomicheskaya Gazeta (USSR) 1962, no. 12(33) p. 11-12.

DESCRIPTORS: Nuclear engineering, *Nuclear reactors, Nuclear propulsion, Reactor fuels.

Subbotin, V. I., Kaznovskii, S. P., and Sidorov, V. I.
A STUDY OF HEAT ABSORPTION BY LIQUID METAL IN A CHANNEL OF RECTANGULAR CROSS SECTION. 7 June 62 [17]p. 8 refs. FTD-TT-62-714.
Order from OTS or SLA $1.60 62-32425

Unedited rough draft trans. of Teploenergetika (USSR) 1961 [v. 8] no. 9, p. 68-72.

DESCRIPTORS: *Reactor fuels, Laminates, Liquid metals, *Mercury, Heat transfer, Absorption.

The special features of heat absorption by liquid metal are considered on models of flat fuel elements. The results of an experimental investigation of the heat transfer to mercury in a channel of rectangular cross section are given. (Author)

Radioactivity

Aglintsev, K. K., Ostromukhova, G. P., and Kholnova, E. A.
DETERMINATION OF THE GAMMA-CONSTANT OF RADIUM (Izmerenie Gamma-Postoyannoi Radiya). [1961] [8]p. 16 refs.
Order from OTS or SLA $1.10 61-28229

Trans. of #Izmeritel'naya Tekhnika (USSR) 1960, no. 12, p. 40-42.

DESCRIPTORS: *Radium, *Gamma rays, Determination, Gamma counters, Calorimeters.

Baraboi, V. A. and Bershtein, S. A.
THE POLAROGRAPHIC ACTIVITY OF BLOOD SERUM PROTEINS DURING ACUTE RADIATION SICKNESS AND THE PROPHYLACTIC ADMINISTRATION OF PROPYL GALLATE. 3 May 62 [10]p. 11 refs. JPRS: 13639.
Order from OTS or SLA $1.10 62-24383

Trans. of Ukrayins'kyi Biokhimichnyi Zhurnal (USSR) 1962, v. 34, no. 1, p. 32-38.

DESCRIPTORS: *Polarographic analysis, *Blood proteins, *Serum, *Radiation sickness, Inhibition, *Gallic acid, *Propyl radical.

Regular changes have been demonstrated in the polarographic activity of serum proteins under the influence of irradiation: a marked reduction in the activity during the first hours after irradiation is replaced by transitory increase in activity, after which there is again a reduction which lasts up to the time of death of the animals. The prophylactic injection of propyl gallate initially intensifies the inhibition of activity of serum proteins, but the ensuing increase in this activity is not replaced by a new reduction, but rather leads to a complete restoration of it by the eighth day after irradiation. The intensification of radiation inhibition of the polarographic activity of proteins under the influence of propyl gallate is the result of the summation of two different processes: the radiation inactivation of protein and the reversible suppression due to blockade of its active groups. The inhibitory effect of propyl gallate consists in converting the active groups of the serum proteins to inactive groups, which are more radioresistant, which in turn is responsible for the restoration of the amplitude of the polarographic waves to their original levels in animals of the experimental group. (Author)

PHYSICS

PHYSICS, GEOPHYSICS, ASTROPHYSICS, ASTRONAUTICS, ASTRONOMY, AND MATHEMATICS, NO. 6. Series 1 of English Abstracts of Selected Articles from Soviet Bloc and Mainland China Technical Journals. July 61 [151]p.
Order from OTS or SLA $18.50 61-11140-6

DESCRIPTORS: *Physics, *Astrophysics, *Astronautics, *Mathematics, *Astronomy, *Geophysics, *Abstracts, China.

Consists of abstracts in English.

Bol'shakov, P. E. and Levchenko, G. T.
TENSION SUPERFICIELLE À LA SURFACE DE SÉPARATION LIQUIDE-GAZ, SOUS HAUTES PRESSIONS, tr. by Fedorovsky. 3 Nov 60 [25] p. 2 refs. CEA Trans. no. R 1043 (text in French).
Order from OTS or SLA $2.60 61-15784

Trans. in French of Referat. Zh. Fiz., S. S. S. R. [sic] 1955, p. 30-42.

DESCRIPTORS: *Surface tension, Liquids, Gases, Purification, Phase studies, *High pressure research, Bubbles, *Capillary tubes, Calibration, Towers (Chemistry), Manometers.

Bulakh, E. G., Kremnyov, O. O., and Kukhnenko, M. T.
GENERALIZATION OF CERTAIN CRITERIA TO VERIFY INTERPRETATIONS OF GRAVITATIONAL ANOMALIES [AND] HEAT TRANSFER OF THIN STRIPS OF SMALL DIMENSIONS AT TRANSVERSE FLOW OF AIR. 26 July 62 [15]p. 4 refs. FTD-TT-62-650; AD-284 089.
Order from OTS or SLA $1.60 62-33067

Unedited rough draft trans. of Akademiya Nauk URSR [Kiev]. Dopovidi, 1960, no. 5, p. 630-633 and 642-645.

DESCRIPTORS: *Geodesics, *Gravity anomalies, Equations, *Aerodynamics, Gas flow, Wind tunnels, *Thermodynamics, *Heat transfer.

Dautov, G. Yu. and Zhukov, M. F.
RESULTS OF AN INVESTIGATION OF THE PROPERTIES OF A WATER STABILIZED ARC. 29 Oct 62 [9]p. 3 refs. JPRS: 15923.
Order from OTS or SLA $1.10 62-33665

Trans. of Zhurnal Prikladnoi Mekhaniki i Tekhnicheskoi Fiziki (USSR) 1962, no. 2, p. 32-36.

DESCRIPTORS: *Electric arcs, Stability, Electrical properties, *Plasma physics, Temperature, Production, Magnetic fields, Water, Electrodes, Erosion.

Preliminary investigations of a plasmatron with a water-stabilized arc indicated the effectiveness of the use of a radial magnetic field for rotating the arc. When the bases of the arc are displaced at high speed the erosion of the electrode material is significantly reduced and the operating time of the plasmatron is increased. In certain particular cases a rising volt-ampere curve is obtained which permits the construction of a plasmatron with water stabilization of the arc and a rotating magnetic field which will operate without a ballast resistance. The elimination of the ballast resistance may significantly increase the overall efficiency. (Author)

Koch, Bernhard.
VELOCITY MEASUREMENTS USING THE ELECTROMAGNETIC DOPPLER EFFECT, PT. I [Geschwindigkeitsmessung mit Hilfe des Electromagnetischen Doppler-Effektes, teil 1]. [1962].
Order from K-H $17.50 K-H 10797-a

Trans. of Archiv für Technisches Messen [und Industrielle Messtechnik] (West Germany) 1960 [v. 293] suppl. V 143-4 [p. 109-112].
Another trans. is available from SLA $3.60 in 61-20445 [1961] [35]p.

DESCRIPTORS: *Electromagnetic waves, Frequency, Velocity, Measurement, *Doppler systems, Wave transmission.

Mikhailov, I. G. and Shutilov, V. A.
LA VELOCITA DEL SUONO E LA COMPRESSIBILITA DI SOLUZIONI ACQUOSE DI ACIDI INORGANICI (Velocity of Sound and the Compressibility of Aqueous Solutions of Inorganic Acids). 7p. 5 refs. CNP-8. (text in Italian).
Order from OTS or ETC $1.55 62-26087

Trans. of Akademiya Nauk SSSR. Doklady, 1956, v. 110, no. 1, p. 116-118.

DESCRIPTORS: *Sound, *Velocity, *Acids, Solutions, Salts, Water.

Vanyukov, M. P. and Isaenko, V. I.
INVESTIGATING THE LUMINESCENCE ORIGINATING DURING THE ELECTRIC FULMINATION OF THIN WIRES. 13 June 62 [10]p. 10 refs. FTD-TT-62-777.
Order from OTS or SLA $1.10 62-32314

Unedited rough draft trans. of #Zhurnal Tekhnicheskoi Fizikii (USSR) 1962, v. 32, no. 2, p. 197-201.

DESCRIPTORS: *Wire, Electric discharges, Explosions, *Fulminates, *Luminescence, Metals, Vapors.

With the aid of an electron-optical scanner certain laws were established governing the rate of expansion of the luminous channel and cloud of fulmination products, as well as the localization of the zone of luminescence. Delay in the beginning of wire fulmination relative to the moment of cutting in the current in the discharge circuit rise proportionally to the area of wire profile. The rate of expansion of the fulmination products cloud and the shining channel rise with increase in wire gage and reduction in its length. Luminosity, originating during the fulmination of a wire and localizing between shock wave and dense cloud of metal vapors begins with the delay in time relative to the outset of expansion of fulmination products. The magnitude of this delay depends upon the rate of propagation of metal vapor cloud. When this cloud attains a rate of 2.5-3 km/sec the luminosity begins simultaneously with the fulmination. There is a substantial difference in the development of the shining channel during the fulmination of wire and during spark discharge in the air. During periodic change in current in the circuit of the fulminating wire the luminosity of metal vapors is localized in hollow cylinders, expanding at a rate of up to 20-30 km/sec.

Electricity and Magnetism

Burlatskaya, S. P.
THE ARCHAIC MAGNETIC FIELD OF THE EARTH. 21 June 62, 2p. AID rept. 62-85.
Order from OTS or SLA $1.10 62-32115

Abstract trans. of #Akademiya Nauk SSSR. Izvestiya. Seriya Geofizicheskaya, 1962, no. 4, p. 524-528.

DESCRIPTORS: *Terrestrial magnetism, Magnetism, Magnetic fields, Intensity, Geophysics.

Sinel'nikov, K. D., Safronov, B. G., and Topolya, N. V.
MAGNETIC MOMENT OF PLASMOIDS. [1961] [12]p. 2 refs.
Order from OTS or SLA $1.60 AEC-tr-4725

Trans. of mono. O Magnitnom Momente Plazmennykh Sgustkov, Khar'kov, 1960 [p. 134-144].

DESCRIPTORS: *Plasma physics, *Magnetic moment, Magnetic fields, Electric currents, Coils.

A study was made of the magnetic properties of plasmoids moving in an inhomogeneous axially-symmetrical magnetic field of intensity up to 100 oersted in a vacuum 1 x 10^{-5} mm Hg. The plasmoids were produced by a source of the Bostick type with a 1 microfarad capacitor, operating in the paeriodic mode. The source voltage varied from 5 to 10 kv. (Author)

Stekol'nikov, I. S.
THE NATURE OF THE LONG SPARK. 28 Feb 62 [434]p. 17 refs. FTD-TT-61-149; AD-274 062.
Order from OTS or SLA $22.25 62-24040

Unedited rough draft trans. of mono. Priroda Dlinnoi Iskry, Moscow, 1960, 272p.

DESCRIPTORS: Electric arcs, *Electric discharges, Sparks, Lightning, *Electric power production, Transmission, Direct current.

The book is concerned with an examination of the mechanism for sparks in long gaps of various types with various types of applied voltages. The monograph is based on investigations carried out by the author and his co-workers and upon a considerable number of studies published in the literature. Descriptions are given of the apparatus, setups, and methods of measurements that were used in studying the nature of sparks. Consideration is given to the successive spark stages in various discharge gaps (basically in air gaps) and with various types of voltages. Problems of important practical value are discussed in the light of generalized laws for the development of the surge discharge. Analyses are made of methods for computing and obtaining experimentally the volt-second characteristics of insulation, and methods are recommended for obtaining more correct values. An exposition is given of modern theories for lightning formation, and experimental results based upon the study of lightning, published in recent years. The monograph is designed for a wide circle of people occupied in the investigation of high-voltage discharges, or utilizing their properties in either scientific-research or engineering and technical fields. (Note by Soviet editor B. M. Vul)

Varchenya, S.
EXPERIMENTAL STUDY OF THE INTERDEPENDENCE BETWEEN TEMPERATURE AND THERMOELECTROMOTIVE FORCE AND RESISTANCE OF Mn-Zn FERRITES. 13 Aug 62 [12]p. 5 refs. FTD-TT-62-396; AD-284 144.
Order from OTS or SLA $1.60 62-33054

Unedited rough draft trans. of Akademiya Nauk Latviiskoi SSR [Riga]. Izvestiya, 1961, no. 6(167) p. 43-49.

DESCRIPTORS: *Ferrites, Manganese alloys, Zinc alloys, Resistance, Temperature, *Thermoelectricity.

Electronics

NEWS OF HIGHER EDUCATIONAL INSTITUTIONS, MINISTRY OF HIGHER AND SECONDARY SPECIALIZED EDUCATION USSR, RADIOPHYSICS SERIES. 1 Oct 62, 470p. JPRS: 15517
Order from OTS $6.00 62-11782

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1962, v. 5, no. 2, p. 211-415.

DESCRIPTORS: *Electronics, *Radio astronomy, Astronomy, Radio signals, Meteors, Electrons, Radio waves, Ionospheric propagation, Electromagnetic waves, Dipole moments, Magnetic fields, Plasma physics, Atmosphere, Propagation, Correlation techniques, Magnetrons, Oscillators, Amplitude modulation, Frequency modulation, Electron tubes, Anodes (Electron tubes), Radio interference, Parametric amplifiers, Antennas, Partial differential equations, Electron beams, Semiconductors, Voltage, Equations of motion, Pipes, Production, Scheduling, Digital computers, Radar pulses, Solar corona, Satellites, Frequency, Masers, Sun, Particles.

Contents:
Spectrum of radio emission from the discrete source Cassiopeia-a at low frequencies, by E. V. Chayevskii and S. Ya. Braude
Electron distribution over the radius of a meteor trail, by V. V. Sidorov and R. Yu. Fakhrutdinov
Distortion of modulation of powerful radio waves propagating in the ionosphere (Experimental investigation) II, by I. M. Vilenskii
Dipole radiation of longitudinal waves, by A. A. Andronov and V. V. Gorodinskii
Propagation of electromagnetic disturbances along a magnetic field in a dilute plasma, by V. V. Arsenin
Fluctuations of radio waves of different frequency in the troposphere by S. Ya. Braude and E. A. Kaner
Fluctuations of radio waves in the near zone above a plane interface, by F. G. Bass and others
Stationary single-frequency oscillation mode of a magnetron oscillator, by V. N. Nikonov
Fluctuations of amplitude and frequency of a magnetron oscillator, by V. N. Nikonov
Investigation of space-time correlation functions of amplitude fluctuations in measurements on intersecting paths, by A. V. Men'
Influence of the flicker effect on amplitude fluctuations of a vacuum tube oscillator, by V. A. Logachev and others
Investigation of a magnetron-type anode block with resonators having a drop-shaped transverse cross section, by A. I. Tereshchenko and A. G. Shein
Noise factor of a receiver with single-circuit input parametric amplifier, by V. I. Yuzvinskii
Experimental investigation of non-stationary radiation of vertical antenna, by A. K. Bulgakov and V. M. Rysakov
Dispersion equation of the magnetron, by V. Ya. Maleev
Space charge waves in a system of electron beams of finite length, by R. A. Dudnik
Method of shipping the volt-ampere characteristics as applied to P-N junction, by S. P. Sinitsa
Conditions of appearance of periodic motion from an equilibrium state, by V. N. Truzhennikova
Effect of wave phenomena in a pressure pipeline on optimal control, by G. V. Aronovich
Method of pointwise transformations in the problem of compiling an optimum schedule for rhythmic production of an arbitrary number of articles using one and the same equipment when changing production lots, by A. S. Alekseev
On some operations realized by sequential digital computers, by M. Ya. Eingorin
Use of logical units in a meteoric radar by R. P. Chebotarev

Deviations from structural regularity of magnetic field in the outer solar corona, by V. V. Vitkevich
The possibility of existence of natural radio-emitting satellites moving around the sun, by V. V. Vitkevich
Frequency standard using a maser, by L. I. Gershtein and V. M. Plechkov
Energy losses of a charge moving over an anisotropic medium, by F. G. Bass and S. I. Khankina
Contribution to an investigation of oscillations in a system of two coupled networks one of which contains a variable capacitance, by N. V. Soina
Radio emission of the sun in wavelength $\lambda = 1.8$ mm, by N. A. Gorokhov and others
Geomagnetism and Aeronomy, 1961, v. 1, no. 6: Abstracts of articles.

NEWS OF HIGHER EDUCATIONAL INSTITUTIONS, MINISTRY OF HIGHER AND SECONDARY SPECIALIZED EDUCATION USSR, RADIOPHYSICS SERIES, 1962, VOL. 5, NO. 3. 16 Oct 62 [456]p. JPRS: 15740.
Order from OTS or SLA $23.50 62-33452

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1962, v. 5, no. 3, p. 423-614.

DESCRIPTORS: *Electronics, Light, Cosmic rays, Interstellar matter, Magnetic fields, Radio waves, Ionospheric propagation, Energy, Plasma physics, Electromagnetic waves, Propagation, Crystals, Nuclear resonance, Oscillators, Gas discharges, Rare gases, Magnetrons, Radio equipment, Circuits, Oscillation, Synchronizers, Statistical processes, Control systems, Synthesis, Moon, Heat transfer, Radio signals, Radio astronomy, Detection, Radiometers, Paramagnetic amplifiers, Formaldehyde, Molecules, Sun, Thermal radiation.

Contents:
Lasers (Review) by V. N. Genkin and Ya. I. Khanin
Diffusion of cosmic rays in interstellar magnetic field, by G. G. Getmantsev
Possibility of measuring the electron concentration in the upper ionosphere and interplanetary space by means of plasma wave radiation, by N. A. Mityakov and V. O. Rapoport
Concerning interaction of radio waves in the ionosphere, by I. M. Vilenskii
Conservation of energy in the electrodynamics of media with spatial dispersion, by V. L. Ginzburg
Transition radiation on a plasma boundary with account of spatial dispersion, by V. Ya. Eidman
Transition radiation in oblique incidence, by V. E. Pafomov
Second approximation to the problem of propagation of waves in a medium with random inhomogeneities, by V. I. Tatarskii
Effect of crystal-lattice defects on the intensity and form of nuclear quadrupole resonance lines in crystals, by V. S. Grechishkin and G. B. Soifer
Effect of fluctuations of the parameters of a self-oscillator on its behavior near the bifurcation point, by A. N. Malakhov
Ionization oscillations in discharges in mixtures of inert gases with mercury vapor by A. A. Zaitsev and M. Ya. Vasil'eva
Approximate analysis of processes in a multicavity magnetron (Plane Model) by V. E. Nechaev
Effect of palma pulse streams on radio circuits with capacitive storages, II, by G. A. Medvedev
Effect of delay on the synchronization of self-oscillations by an external periodic force, by V. P. Rubanik
Statistical method of determining the characteristics of non-adjustable self-oscillating systems, by L. I. Gudzenko
Synthesis of certain feedback control devices on the basis of symmetrical systems of equations of algebraic logic, by M. Ya. Eingorin
Effect of the internal flow of heat of the moon on its radio emission, by V. S. Troitski
Precision measurement of the radio emission from the moon on 9.6 cm, by V. D. Krotikov
Sensitivity of one method of detection, by A. N. Malakhov
Sensitivity of radiometers with paramagnetic amplifiers, by K. S. Stankevich
Observation of the emission line of the formaldehyde molecule on 72.8 gcs., by A. F. Krupnov and V. A. Skvortsov
Geomagnetizm i Aeronomiya, 1962, v. 2, no. 1; abstracts of articles.

Adirovich, E. I.
RÉPARTITION DE L'HÉTÉROCHARGE ET DU CHAMP DANS LES PHOTOÉLECRETS (Raspredelenie Geterozaryada i Podya v Fotoelektretakh) [Distribution of Heterocharge and Field in Photoelectrets]. 20 Feb 62 [11]p. (Russian text included) 7 refs. CEA Trans. no. R 1564 (text in French).
Order from OTS or SLA $1.60 62-25088

Trans. in French of Akad[emiya] Nauk SSSR. Dokl[ady] 1961, v. 137, no. 6, p. 1335-1338.

DESCRIPTORS: *Dielectrics, *Electrets, Photoelectric effect, Electromagnetic fields, Distribution.

Basov, N. G. and Prokhorov, A. M.
QUANTUM RADIOPHYSICS. 9 Feb 62 [20]p. FTD-TT-61-452; AD-271 819.
Order from OTS or SLA $1.60 62-19635

Unedited rough draft trans. of [Vsesoyuznoe Obshchestvo po Rasprostraneniya Politicheskikh i Naudhnykh Znanii. Seriya 9] (USSR) 1961, no. 7, p. 33-45. An abstract trans. of entire no. 7 is available from OTS or SLA $1.10 as 61-28798, AID-61-131, 14 Sep 61, 2p.

DESCRIPTORS: *Microwave spectroscopy, *Quantum mechanics, Radiofrequency, *Radio signals, *Nuclear magnetic resonance, *Parametric amplifiers, *Masers.

Morgulis, N. D., Levitskii, S. M. and others.
CURRENT OSCILLATIONS IN A THERMIONIC ENERGY-CONVERTER SYSTEM CONTAINING CESIUM VAPOR. 26 Apr 62 [6]p. 4 refs. FTD-TT-62-637.
Order from OTS or SLA $1.10 62-25756

Unedited rough draft trans. of #Radiotekhnika i Elektronika (USSR) 1962. v. 7, no. 2, p. 352-353.

DESCRIPTORS: *Thermionic converters, *Cesium electron tubes, Vapors, Electric currents, Oscillations.

Molecular Physics and Spectroscopy

TRANSLATIONS ON SPECTRAL ANALYSIS. 29 Oct 62 [20]p. 11 refs. JPRS: 15922.
Order from OTS or SLA $1.60 62-33670

Trans. of #Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1962. v. 26, no. 7, p. 846-855.

DESCRIPTORS: *Spectrographic analysis, Theory, *Copper alloys, Alloys, Spectrographic data.

Contents:
The nature of the effect of "tertiary" elements on line intensity in the spectral analysis of several copper-based alloys, by N. K. Rudnevskii and Yu. S. Kalinin
Several problems of the theory of spectral analysis by S. L. Mandel'shtam.

Akhmanov, S. A., Gvozdover, S. D. and others.
3-CENTIMETER BAND AUTODYNE RADIOSPECTROSCOPE FOR OBSERVING ELECTRON PARAMAGNETIC RESONANCE. 7 Mar 60 [6]p. 5 refs. USASIA SC-59j/59; JPRS: R-429-D.
Order from OTS or SLA $1.10 62-32759

Trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1959, no. 2, p. 38-40.

DESCRIPTORS: *Paramagnetic resonance, Resonance, Electrons, Reflex klystrons, Traveling wave tubes, Oscillators, *Radiofrequency spectrum analyzers.

A 3-centimeter band travelling wave tube oscillator, closed by an external feedback circuit, was used in observations of electron paramagnetic resonance. Frequency of the oscillator is determined by the oscillatory circuit in the feedback circuit. The object to be measured is placed in this circuit. The operating characteristics of such a radiospectroscope are presented in this article. (Author)

Dejardin, G., Janin, J., and Peyron, M.
SPECTROPHOTOMETRY: APPARATUS FOR THE SPECTROPHOTOMETRIC STUDY OF WEAK LINES IN THE NEAR INFRARED REGION, tr. by Bertha P. Klenova. 23 Feb 54, 3p. 8 refs. TVA 3261.
Order from OTS or SLA $1.10 62-32258

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1954, v. 238, p. 224-226 (pub. by Gauthier-Villars et Cie, Paris).

DESCRIPTORS: *Infrared spectrophotometers, Infrared spectroscopy, Image converter tubes, Photomultipliers.

The apparatus described essentially is composed of a grating-dispersion device and a receiver consisting of an image-converter combined with a multiplier photocell. (Author)

Muel, Bernard and Hubert-Habart, Michel.
PHOSPHORESCENE SPECTRUM OF 3,4-BENZOPYRENE IN RIGID SOLUTION AT -180°C. [1962] 14p.
Order from K-H $17.50 K-H 8650-c

Trans. of J[ournal] de Chimie Physique (France) 1958, v. 55, no. 5, p. 377-382.

DESCRIPTORS: *Benzopyrenes, *Phosphorescence.

Veits, I. V. and Gurvich, L. V.
ELECTRON GROUND STATES OF GROUP II ELEMENT OXIDE MOLECULES. [1962] 11p. 10 refs.
Order from OTS or SLA $1.60 62-16714

Trans. of Optika i Spektro[skopiya] (USSR) 1957, v. 2, no. 2, p. 145-149.

DESCRIPTORS: *Alkaline earth compounds, Beryllium compounds, Magnesium compounds, Calcium compounds, Strontium compounds, Oxides, Dissociation, *Electron optics, Atomic energy levels.

As a result of a study of the temperature dependence of the logarithm of the equilibrium constant for the dissociation of CaO and SrO in the range between 2300 and 3200°K, the dissociation energies of these molecules are determined. By means of a comparison of the values found by this method with those from the equation $D_0 = T(\bar{\varphi}^* - R\,\overline{\ln K_p})$ the conclusion is drawn that the ground states of both oxide molecules must be $^1\Sigma$ states. It is shown that this proposition does not contradict the correlation rules if the ground states of the corresponding molecules are correlated with the excited ^3P state of the metal atom, and that the potential curves of the triplet states formed from the ground states of the metal and oxygen atoms ^1S (Me) + ^3P(O) are curves of the repulsion type. (Author)

Optics

Bonch-Bruevich, A. M., Karazin, I. V. and others.
EXPERIMENTAL MODEL OF A PHASE FLUOROMETER. Presented at the Conference on Luminescence (no. 6) Feb 58, Leningrad. 7 Mar 60 [9]p. 10 refs. USASIA SC-59n/59; JPRS: R-433-D.
Order from OTS or SLA $1.10 62-32755

Trans. of #Pribory i Tekhnika Eksperimenta (USSR) 1959, no. 2, p. 53-56.

DESCRIPTORS: *Phase meters, *Fluorometers, Model tests, *Luminescence, Instrumentation, Resolution, Fluorescence.

A new phase fluorometer, completed in the form of a finished laboratory instrument, is described. The resolving power of the phasometric part of the fluorometer is $\sim 0.1\%$, which corresponds to 2×10^{-11} seconds at a selected frequency of modulation of luminous flux. The high photosensitivity of the

instrument permits measuring the duration of luminescence at several orders weaker than the luminescence of an alkaline solution of fluorescein. (Author)

Rozenberg, G. V., ed.
SEARCHLIGHT BEAM IN THE ATMOSPHERE; INVESTIGATIONS IN ATMOSPHERIC OPTICS: [SELECTED PARTS]. 28 Aug 62 [122]p. 173 refs. AID rept. 62-126.
Order from OTS or SLA $10.10 62-33093

Trans. of mono. Prozhektornyi Luch v Atmosfere; Issledovaniya po Atmosfernoi Optike [Moscow, 1960] chap. 2, sect. 3a-b; chap. 3, sect. 4; chap. 4, sect. 1-2b, 5a-b; chap. 5, sect. 3-4; chap. 6, sect. 1, 3-5; refs.; appendix.

DESCRIPTORS: *Atmosphere, *Optics, *Searchlights, Light, Scattering, Visibility, Atmospheric sounding, Aerosols.

Sedlacek, B.
SOME FACTORS IN MEASURING SCATTERING OF LIGHT IN A CYLINDRICAL CELL. Pt. 1 of Scattering of Light. [1962] 10p.
Order from ATS $15.00 ATS-20P63C

Trans. of Chem[icke] Listy (Czechoslovakia) 1953, v. 47, p. 1113-1119.

DESCRIPTORS: *Light, Scattering, Measurement, *Cylindrical bodies.

Solid State Physics

Belyaev, A. I.
INVESTIGATION OF FUSED SALTS BY MEANS OF RADIOACTIVE RADIATION. 20 Feb 62 [18]p. 4 refs. FTD-TT-62-46.
Order from OTS or SLA $1.60 62-24943

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Tsvetnaya Metallurgiya (USSR) 1960 [v. 3] no. 6, p. 46-54.

DESCRIPTORS: *Fused materials, *Salts, Halides, Oxides, *Radioactive isotopes, Gamma rays, Absorption, Electrons, Density, Atomic number.

The absorption of γ-radiation was investigated during its passage through a medium of fused salts and their mixtures. The degree of absorption of γ-radiation in general is higher the larger the atomic number of the cation and anion of the salts and the greater their density; however, here we observe a deviation, particularly for NaCl and $BaCl_2$ among the chlorides, and NaCl and KCl among the halides of sodium and potassium. A greater agreement is obtained between the degree of absorption of γ-radiation (number of counts) and the relative number of electrons per cc of molar volume of the salt melt. For melts of salt systems, in particular: NaF-AlF3- LiF-AlF3, Na_3AlF_6-Al_2O_3 and Na_3AlF_6-$BaCl_2$, a sufficiently complete agreement was established between the degree of absorption of γ-radiation and the electron density and a less complete agreement between the volume density of these melts. (Author)

Samsonov, G. V. and Koval'chenko, M. S.
SOME REGULARITIES IN THE SINTERING OF POWDERS OF HIGH-MELTING COMPOUNDS (Nekotorye Zakonomernosti Spekaniya Poroshkov Tugoplavkikh Soedinenii). Aug 62 [17]p. 19 refs. RTS 2119.
Order from OTS or SLA $1.60 62-32494

Trans. of Poroshkovaya Metallurgiya (USSR) 1961, v. 1, no. 1, p. 20-29.

DESCRIPTORS: *Powders, *Sintering, *Refractory materials, Density, Elasticity, Creep, Grains (Metallurgy), Particles, Deformation, Relaxation time, *Powder metallurgy, Vacuum furnaces, Surface tension, Thermodynamics, Phase transitions.

The behaviour of the powders of non-plastic refractory compounds during compacting has been studied. It has been shown that their densification is defined by the same mathematical expressions as for metallic powders but that the elastic after-effect is much greater and passes through stages of dependence on pressure, related to the high brittleness and the non-plasticity of these metal-like compounds. An investigation of the sintering of compacted blanks of refractory compounds has established that under isothermal holding a practically constant density develops, which can be explained by the cessation of creep of the grains. Similar results were obtained from investigations of hot-pressing powders of refractory compounds. Here in the first stage of rapid shrinkage there occurs densification due to the deformation of particles and, simultaneously, recrystallization, which leads to a retardation of the process of shrinkage. The phenomenon of reverse shrinkage in hot-pressing has been studied and the relaxation time of this process calculated. This time decreases exponentially with increasing temperature. (Author)

Theoretical Physics

THE SUBDUAL OF PLASMA. 9 Aug 62 [6]p. FTD-TT-62-86; AD-284 151.
Order from OTS or SLA $1.10 62-32997

Unedited rough draft trans. from Sovetskaya Rossiya (USSR) 1961, no. 242(1618) 12 Oct, p. 3.

DESCRIPTORS: *Plasma physics, *Thermonuclear reactions, Control, Thermonuclear experiments, Conferences.

Glauberman, A. E.
ON THE THEORY OF SHORT-RANGE ORDER IN LIQUIDS (K Teofii Blizhnego Poryadka v Zhidkostyakh) tr. by V. N. Pavloff. [1962] 5p. 4 refs. NRCC Technical trans. 1044.
Order from NRCC $0.50 NRCC C-4079

Trans. of Zh[urnal] Eksperim[ental'noi] i Teor[eticheskoi] Fiz[iki] (USSR) 1952, v. 22, no. 2, p. 249-250.

DESCRIPTORS: *Liquids, *Crystal structure, Chemical equilibrium, Chemical bonds, Energy, Statistical functions.

Stepanov, V. G. and Bezel', V. S.
THE POSSIBILITY OF THE EXCITATION OF AN ELECTRONIC PLASMA OF HIGH CONCENTRATION WITH THE AID OF RADIOACTIVE ISOTOPES. [1962] 5p.
Order from K-H $6.25 K-H 10252

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1959, no. 2, p. 36-38.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-18140 [1960] 5p.

DESCRIPTORS: *Plasma physics, Excitation, *Radioactive isotopes.

For abstract see Technical Translations 4: 584, 1960.

Thermodynamics

Ambrok, G. S.
THE EFFECT OF VARIABLE HEAT FLOW ALONG THE SURFACE OF A PIPE ON HEAT TRANSFER WITH TURBULENT FLOW. 4 June 62 [10]p. 5 refs. FTD-TT-62-380.
Order from OTS or SLA $1.10 62-32414

Unedited rough draft trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 7, p. 19-24.

DESCRIPTORS: *Heat transfer, Fluid flow, *Turbulent flow, Pipes, Surface conditions.

The Prandtl formula is used to calculate heat transfer in the stabilized region of a pipe for the case of variable heat flow. (Author)

Kutateladze, S. S. and Borishanskii, V. M.
HANDBOOK ON HEAT TRANSFER. 16 Aug 62 [536]p. 258 refs. MCL-355; AD-284 118.
Order from OTS or SLA $26.00 62-32974

Unedited rough draft trans. of mono. Spravochnik po Teploperedache, Leningrad/Moscow, 1958, 414p.

DESCRIPTORS: Handbooks, *Heat transfer, Hydrodynamics, *Thermal conductivity, Convection, *Fluid flow, Turbulence, Laminar boundry layer, Velocity, Condensation, Boiling, Melting, *Thermal radiation, Absorption, *Heat exchangers, Mathematical analysis.

Chapters are devoted to: (1) Basic concepts and equations of heat-transfer theory; (2) Similarity of heat and hydrodynamic processes; (3) Steady heat flow in solid bodies; (4) Unsteady-state heat conduction in solids; (5) Basic equations of convection; (6) Turbulence; (7) Heat transfer in tubes and ducts during steady flow of incompressible fluids; (8) Heat transfer in the external flow of an incompressible fluid past bodies; (9) Heat transfer in gas flowing with great velocity; (10) Heat transfer in free convection; (11) Heat transfer in vapor condensation; (12) Heat transfer during boiling; (13) Heat transfer during evaporation, melting and solidification; (14) Basic laws of heat radiation; (15) Radiative heat exchange in absorbing medium; (16) Fundamentals of heat calculation of exchangers; and (17) Hydraulic calculation of heat exchangers.

Kutateladze, S. S., Mikk, E. I. and others.
LAWS OF RESISTANCE AND HEAT TRANSFER IN A TURBULENT BOUNDARY LAYER OF COMPRESSIBLE GAS AND THE CALCULATION OF FRICTION AND HEAT TRANSFER [AND] THE SOLUTION OF CERTAIN THREE-DIMENSIONAL PROBLEMS OF RADIANT HEAT TRANSFER BY REDUCING THEM TO TWO-DIMENSIONAL PROBLEMS. 20 July 62 [33]p. 22 refs. FTD-TT-62-330; AD-283 884.
Order from OTS or SLA $3.60 62-32986

Unedited rough draft trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 6, p. 33-41 and 90-100.

DESCRIPTORS: Gas flow, Compressible flow, *Turbulent boundary layer, Boundary layer, *Heat transfer, *Friction, Resistance, Theory, Cylindrical bodies, *Thermal radiation, Blackbody radiation, Numerical analysis, Differential equations, Integrals, Special functions.

A method is presented for calculating friction and heat transfer in a turbulent boundary layer of compressible gas, based on the limiting laws of friction and heat transfer, It is shown that even in the first approximation, the limiting law of friction takes into account the influence of the Re** number on the relative change of the friction coefficient with a temperature factor. The obtained theoretical laws of resistance and heat transfer permit us to substantially simplify the solution of the integral relations of a boundary layer of compressible gas for flow-past with a longitudinal temperature-velocity gradient in regions not close to the separation point. (Kutateladze and Leont'yev) A method is presented for calculating the degree of blackness for radiating volumes of infinite cylindrical systems. Some of the results presented are used for the critical analysis of an approximate method of calculation. (Mikk and Epik)

Morozov, V. G.
AN EXPERIMENTAL INVESTIGATION OF THE CESSATION OF FILM BOILING OF A LIQUID ON A SUBMERGED HEATING SURFACE. [1962] 6p.
Order from ATS $9.75 ATS-24P62R

Trans. of Inzh[enerno]-Fiz[icheskii] Zh[urnal] (USSR) 1962, v. 5, no. 4, p. 15-19.

DESCRIPTORS: *Liquids, *Film boiling, Experimental data.

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

BULGARIAN DECREE ON IMPROVING STATE LEADERSHIP IN SCIENCE. 24 Oct 62 [26]p. JPRS: 15868.
Order from OTS or SLA $2.60 62-33591

Trans. from Narodna Armiya (Bulgaria) 1962, v. 19, no. 4352, 28 Sep, p. 1 and 3-4.

DESCRIPTORS: *Science, Scientific research, Scientific organizations, Leadership, *Research program administration, *Bulgaria.

COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY: TRANSLATIONS NO. 4. 15 Aug 62 [101]p. JPRS: 14854.
Order from OTS or SLA $9.10 62-32467

Trans. of K'o Hsüeh T'ung Pao (Chinese People's Republic) 1962, no. 5, p. 1-22, 28-34, 47-49, table of contents.

DESCRIPTORS: *Scientific research, *Inland waterways, *Geology, Water supplies, Communication systems, Transportation, Chemists, Organic compounds, Conferences, Amphibians, Electrocardiography, Plants, China.

Contents:
Summary reports:
Joint Sino-Soviet 1956-60 integrated investigation of the Heilungkiang, by Feng Chung-yun
Joint Sino-Soviet investigation of natural conditions in the Heilungkiang River Basin, by Chu Chi-fan and others
Joint Sino-Soviet investigation of geologic conditions in the Heilungkiang River Basin, by Hou Te-feng and others
Joint Sino-Soviet investigation of water conservation and development problems in the Heilungkiang River Basin, by Hsieh Chia-tsa and Sun Ying
Joint Sino-Soviet investigation of communications and transportation in the Heilungkiang River Basin, by Kao Yüan and Lu Tsu-hou
In memoriam Professor Tsang Chang-Kung, by Huang Yao-tseng and others
The Conference of the Sino-Soviet Joint Committee for the Study of the Productivity in the Amur River Basin (no. 4) by Kao K'uei-wen
Order Salientia of class Amphibia found in China: book review by Hsieh Ch'ung-ping
Applied cardiology: book review by Lien Chi-ch'un
The Science of Plant Protection: book review by Chih Ch'iang.

NEWS OF THE UKRAINIAN ACADEMY OF SCIENCES. 12 May 61, 28p. JPRS: 9199.
Order from OTS $0.75 61-31141

Trans. of Akademiya Nauk URSR, Kiev. Dopovidi, 1960 no. 8 [p. 1124-1129].

DESCRIPTORS: *Scientific organizations, Scientific research, *Marine biology, *Plants, *Metals, *Ceramic materials, Alloys, Sintering, Conferences.

Contents:
In the presidium of the Academy of Sciences UkSSR
Scientific contacts of the Odessa biological station of the Academy of Sciences Ukrainian SSR with foreign researchers, by K. O. Vinogradov
Congress of the Ukrainian Botanical Society (no. 2) Kiev, 27-Feb-2 Mar 60, by A. I. Barbarych
Scientific seminar on the theory of compressing and sintering of metalloceramic alloys, Kiev, 4-6 May 60, by O. I. Raichenko.

RECENT EVENTS IN THE SIBERIAN DEPARTMENT OF THE ACADEMY OF SCIENCES OF THE USSR. 19 Mar 62 [7]p. JPRS: 13105.
Order from OTS or SLA $1.10 62-23639

Trans. from Akademiya Nauk SSSR. Vestnik, 1961, v. 31, no. 12 (2 articles).

DESCRIPTORS: *Scientific organizations, Conferences, *Siberia.

Contents:
In the presidium of the Academy of Sciences, field conference in Novosibirsk
Meeting of N. S. Krushchev with scientists of the Siberian department of the Academy of Sciences of the USSR.

SELECTED TRANSLATIONS ON SOVIET SCIENCE. 22 May 61, 31p. (figs. omitted). JPRS-4634.
Order from OTS $1.00 61-31462

Trans. from Nedelya (USSR) 1960, no. 36; no. 37, p. 6 and 10; no. 39, p. 16-17; of #Atomnaya Energiya (USSR) 1960 [v. 9, no. 6] p. 512-514; Tekstil'naya Promyshlennost' (USSR) 1960 [v. 20] no. 2, p. 96-97; Nauka i Zhizn' (USSR) 1960 [v. 27] no. 8 (1 article); no. 9, p. 37-40, 50; Akademiya Nauk SSSR. Sibirskoe Otdelenie. Izvestiya, 1960, no. 8, p. 153-154.

DESCRIPTORS: Science, *Helicopters, Design, *Hospitals, Siberia, Hydraulic pressure pumps, Insects, Viruses, *Regeneration, Scientific organizations, *Physics, *Textiles, *Microorganisms, *Chemistry, *Agriculture, Phosphates, Fertilizers, Urea, Scientific personnel.

Contents:
M. L. Mil' and his design bureau: they are furthering the glory of the Fatherland, by I. Tsyganov
Photographic story of a Moscow hospital, by E. Tikhanov
The new Siberia, the scientific Siberia, by B. Azarov
On the threshold of the secret of regeneration, by T. Trofimova
In the Latvian Institute of Physics, by Yu. Koryakin
Forty years of the Moscow Textile Institute
Deep-sea microbes, by M. I. Gol'din
Chemistry and agriculture, by S. I. Vol'fkovich
New additions to the membership of the Siberian department of the Academy of Sciences USSR.

TRANSLATIONS ON COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY NO. 8. 5 Oct 62 [40]p. JPRS: 15569
Order from OTS or SLA $3.60 62-33274

Trans. of Jen Min Jih Pao (Chinese People's Republic) 1962, 9 Aug, p. 5; Chien Chu Hsüeh Pao (Chinese People's Republic) 1962, no. 1, p. 35-36; and table of contents with excerpts from selected articles of Chung Hua Wai K'o Tsa Chih (Chinese People's Republic) 1962, v. 10, no. 4 and Lin Yeh K'o Hsüeh (Chinese People's Republic) 1962, no. 1.

DESCRIPTORS: *Science, Production, Surgery, Forestry, Periodicals, Indexes, Conferences, Housing, Construction, *China.

Contents:
The characteristics and tasks of technical science, by Chang Kuang-tou
Report on the Congress of the Society of Chinese Architects (no. 3) Chan Chiang, 15-25 Dec 61.

Galaktionov, V. A.
HIGH PRESSURE RESEARCH EQUIPMENT.
16 Oct 62 [10]p. JPRS: 15733.
Order from OTS or SLA $1.10 62-33458

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 7, p. 73-76.

DESCRIPTORS: *High pressure research, *Industrial equipment, *Laboratory equipment, Pressure vessels, Hydraulic presses.

Lange, Oskar.
TOTALITY, DEVELOPMENT, AND DIALECTICS IN THE LIGHT OF CYBERNETICS. 16 Aug 62 [57]p. refs. JPRS: 14358.
Order from OTS or SLA $5.60 62-32464

Trans. of draft text of mono. (paper) Calosc, Rozwoj i Dialektyka w Swietle Cybernetyki, Warsaw, 1960, 72p.

DESCRIPTORS: *Cybernetics, *Philosophy, Control, Stability, Measure theory.

The mechanistic view negates the experimental fact of the existence of totalities having unique properties and patterns. On the other hand, finalism introduces "beings" which are experimentally unverified and unverifiable. A strict and methodologically correct approach to the problem of totality and dialectic development was, nevertheless, made difficult by the absence of a thought apparatus - concepts and the principles of their operation - adequate to the task. At the present, such apparatus is beginning to be formed as a concomitant of the development of the new science of cybernetics. The present article aims at elaborating a thought apparatus necessary for a strict approach to the problem of totality and dialectic development. (Author)

Selbmann, Fritz and Nelles, Johannes
NEW PHASE IN RESEARCH WORK IN THE GERMAN DEMOCRATIC REPUBLIC, tr. by Hutcheson. [1958] 26p. H-1833.
Order from OTS or SLA $2.60 59-11208

Trans. of Wissenschaft und Fortschritt (East Germany) 1957 [v. 7] p. 1-13, 32-34, 56-59.

DESCRIPTORS: East Germany, *Industrial research, Production, Economics, *Scientific research, Engineering.

Trofimuk, A. A.
BASIC TRENDS AND PROSPECTS FOR THE DEVELOPMENT OF SCIENCE IN SIBERIA (Osnovnye Napravleniya i Perspektivy Razvitiya Nauki v Sibiri).
8 Sep 61 [11]p. JPRS: 10101.
Order from OTS or SLA $1.10 61-28416

Trans. of mono. [Konferentsiya po Razvitiyu Proizvoditel'nykh Sil Vostochnoi Siberi (Conference on Development of Productive Forces of Eastern Siberia) 1958] pub. Moscow, 1960, p. 95-100.

DESCRIPTORS: *Science, Scientific organizations, Research program administration, *Siberia.

Photographic Equipment

Goese, H.
NEW GREAT TASKS THAT FACE THE PHOTOGRAPHIC, CINEMATOGRAPHIC, AND OPTICAL INDUSTRIES. 30 June 60 [14]p. (12 figs. omitted). USASIA: SC-121d/60; JPRS: R-861-D.
Order from OTS or SLA $1.60 60-31346

Trans. of die Technik (Germany) 1960 [v. 15] no. 3, Messeheft, p. 216-220.

DESCRIPTORS: *Photographic equipment, *Motion picture cameras, Cameras, Optical equipment, *Optical industry, Industry, Precision equipment, Production, Industrial production, Germany.

Schardin, H[ubert].
APPLICATION OF SPARK CINEMATOGRAPHY TO THE STUDY OF FAILURE PROCESSES. [1962] 25p.
Order from K-H $3.25 K-H 6739

Trans. of mono. Photographie et Cinematographie Ultrarapides, n.p., n.d., p. 301-314.

DESCRIPTORS: *Failure (Mechanics), Photographic analysis, *Motion picture photography.

SOCIAL SCIENCES

IN THE MAIN POST OFFICE AT BELGRADE.
1 Aug 60 [4]p. USASIA: H-6820; JPRS: R-1011-D.
Order from OTS or SLA $1.10 60-31493

Trans. of Lacznosc (Poland) 1959 [v. 10] no. 48 p. 4.

DESCRIPTORS: *Communication systems, *Postal systems, *Yugoslavia, Buildings.

OFFICIAL PROCLAMATIONS FROM OFFICIAL JOURNAL OF CAMBODIA, 1960, NOS. 24-25. 20 June 61 [28]p. JPRS: 8468.
Order from OTS or SLA $2.60 62-19400

Trans. of Journal Officiel du Cambodge [sic] 1960, no. 24, p. 817-818, 822-823; no. 25, p. 853-855, 864-870, 885-901.

DESCRIPTORS: Political science, *Cambodia, *Education, *Military organizations, Government employees, *Refugees.

Contains Proclamations nos. 1660, 1622, 1700, 1703-1705, 1796-1799 and ordnance 240.

USSR CONSUMER GOODS AND DOMESTIC TRADE: SELECTED TRANSLATIONS NO. 1. 12 Feb 61, 72p. JPRS: 6736.
Order from OTS $2.00 61-21195

Trans. of 23 selected articles from 13 Russian periodicals and 2 newspapers.

DESCRIPTORS: *Commerce, Refrigeration systems, Sewing machines, Carbohydrates, Industrial plants, Construction, Shoes, Industry, Textile industry, Machines, Costs, Food, Economics, Sampling, Fruits, Vegetables, Wages, Labor unions, Consumption.

Contents:
The Orsk refrigerator
The Belka sewing machine, by L. Korenblat
Fulfillment of the plan for capital investments and construction of sugar plants to go into operation in 1960
Kazakh footwear industry, by F. P. Reshchetnikov
Siberian textiles, by Z. Mandrusov and L. Dobromyslova
New worsteds-woolens combine
New dairies in Moscow
Unmarketable goods and their price reductions, by M. Zak
Daily responsibility for feeding students
Experience in the use of the sampling method for studying the living standards of the population, by I. Matyukha
Improvement of wholesale trade in footwear, by N. Kuz'menkov
Installment buying, by I. Pavlenko
A further improvement in cooperative trade, by A. Klimov
Blunders of the Perm' city fruit and vegetable trade organization, by K. Igorev
Forms of Soviet trade and its organization, by Ya. Kistanov
Regulate delivery of goods to the cooperatives, by A. Tolokonskii and A. Turov
Sovkhoz stores, by S. N. Zorin
Public catering in the Seven-Year Plan period, by L. I. Shpungin
Study of kolkhoznik family budgets, by I. Matyukha
Increased per-capita consumption of consumer goods
Soviet trade in the Armenian SSR in 40 years, by A. Piruzyan
Improve control over the activity of personal services enterprised and taxation of artisans, by F. Uryupin
The structure of the trade organizations transferred from the Moskovskaya oblast executive committee to the main administration of trade of the Moscow City executive committee.

USSR CONSUMER GOODS AND DOMESTIC TRADE: SELECTED TRANSLATIONS NO. 2. 2 Mar 61, 61p. JPRS: 6818.
Order from OTS $1.75 61-21256

Trans. of Molochnaya Promyshlennost' (USSR) 1960 [v. 21] no. 12, p. 21; Sakharnaya Promyshlennost' (USSR) 1960 [v. 34] no. 11, p. 1-3; Den'gi i Kredit (USSR) 1960 [v. 18] no. 11, p. 5-9; Sovetskaya Potrebitel'skaya Kooperatsiya (USSR) 1960 [v. 4] no. 11, p. 49-55; Obshchestvennoe Pitanie (USSR) 1960, no. 11, p. 3-6, 8-10, 13-14; no. 12, p. 41-43; Sovetskaya Torgovlya (USSR) 1960 [v. 33] no. 12, p. 12-15, 33-36; and 6 selected articles from 5 Russian newspapers.

DESCRIPTORS: *Commerce, Refrigeration systems, Milk, Carbohydrates, Beets, Washing machines, Economics, Rural areas, Wages, Labor, Industrial production, Quality control.

Contents:
A new refrigerator
Some data on the utilization of skimmed milk, by M. Dement'ev
Achievements of the sugar industry
A new refrigerator and washing machine
The further development of trade, by P. Novoselov
Economic accountability in USSR consumer cooperatives, by A. Bykov
The reorganization of rural living conditions and the consumer cooperative system, by S. Vasil'ev
One and a half million rubles less, by Ya. Berzin' and others
Inter-republic wholesale trade, by I. Petrov
Trade between the Belorussian and Georgian Socialist Soviet Republic
Gross turnover in the foundation of the plan, by A. Rukhlenko
Planning the assortment of goods, by Ya. Sapel'nikov
Discounts for the grade and quality of goods, by V. Aralov and M. El'yashov
During the years of Soviet power, by E. Kosheleva
Public catering enterprises in the Belorussian SSR today, by D. Gelin
Bring that which is advanced and progressive to life, by A. Romanov
Conditions of and measures for improving trade and public catering in the Azerbaidzhan SSR, by R. N. Sadykhov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 18. 28 Sep 62 [51]p. JPRS: 15487.
Order from OTS or SLA $5.60 62-33307

Trans. of Finansy SSSR, 1962 [v. 23] no. 5, p. 30-36, 43-47; Partiinaya Zhizn' Kazakhstana (USSR) 1962 [v. 32, no. 5] p. 10-13; Narodnoe Khozyaistvo Kazakhstana (USSR) 1962 [v. 20] no. 5, p. 3-10; Mashinostroenie (USSR) 1962, no. 2, p. 42; Ekonomicheskaya Gazeta (USSR) 1962, no. 21[42] p. 9; and from 1962 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Economics, Industry, *Costs, Machinery, *Petroleum industry, Construction, *Automation, Explosive forming, Industrial plants.

Contents:
The possibilities of the intensive use of local industry, by S. Heifets
Ways of increasing profits in the machinery manufacturing plants in the Moscow area, by Yu. Petrov
New oil lands of Kazakhstan, by S. Shalabaev and P. Shakhov
New krais of Kazakhstan

At very important construction projects
Call for expansion of mechanization and automation, by Yu. Komlev
Komsomol aid enlisted for construction projects, by M. Vyshinskii
Petroleum in the foothills of the caucasus
Who is holding up the start of operations
New petroleum basin in the Ukraine
Raising the level of economic work in the republic
The first kilometer of gas pipe line from Sokh to Khaidarkan
A discussion with K. Ryskulovaya, deputy chairman of the presidium of the Supreme Soviet Kirgiz SSR
The All-Union Seminar on the Utilization of Blasting Power in Metal Working, Khar'kov, 4-12 Oct 51, by M. V. Barabanov
Specialization and its economic effectiveness, by D. Polyakov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 19. 8 Oct 62 [17]p. JPRS: 15612.
Order from OTS or SLA $1.60 62-33323

Trans. of Kommunist Sovetskoi Latvii (USSR) 1962 [v. 18] no. 7, p. 35-37, 39-41; Ekonomicheskaya Gazeta (USSR) 1962, no 23[44] p. 9; and from no. 27[48]; partial trans. (excerpts) of Narodnoe Khozyaistvo Uzbekistana (USSR) 1962 [v. 4] no. 7, p. 41-44.

DESCRIPTORS: *Industrial production, *Economics, *Labor, Machinery, *Industrial plants, Construction, Procurement.

Contents:
Concentration and specialization in machine building in sovnarkhozes, by E. Slastenko
Leading Leningrad institutes
Uzbek industrial construction, by R. Sarkisova
Timely delivery of planned industrial units, by I. Gailis.

Maslov, P. P.
MODELLING IN SOCIOLOGICAL RESEARCH. 7 May 62 [31]p. JPRS: 13662.
Order from OTS or SLA $3.60 62-24409

Trans. of Voprosy Filosofii (USSR) 1962, v. 16, no. 3, p. 62-78.

DESCRIPTORS: *Sociology, Sociometrics, Statistical analysis, Models (Simulations).

Polyakov, L. E.
THE TASKS OF THE HISTORY OF MEDICINE AND PUBLIC HEALTH IN THE LIGHT OF DECISIONS OF THE CONGRESS OF THE CPSU (NO. 22) [AND] MILITARY SANITARY-DEMOGRAPHIC AND MEDICO-STATISTICAL INVESTIGATIONS OF S. A. NOVOSEL'SKII. 26 Oct 62 [21]p. 24 refs. JPRS: 15897.
Order from OTS or SLA $1.60 62-33613

Trans. of Sovetskoe Zdravookhranenie (USSR) 1962, v. 21, no. 4, p. 3-10 and 44-48.

DESCRIPTORS: *Medicine, *History, *Public health, Vital statistics.

Documentation

Reznikov, L. O. and Siforov, V. I.
NEOPOSITIVIST EPISTEMOLOGY AND THE SIGN THEORY OF LANGUAGE [AND] SOME FEATURES OF THE CONTEMPORY DEVELOPMENT OF SCIENCE 10 Sep 62 [20]p. JPRS: 15186. 62-32886

Trans. of Voprosy Filosofii (USSR) 1962, v. 16, no. 2, p. 99-109 and 151-153.

DESCRIPTORS: *Philosophy, *Language, Theory, Culture, Science, Signals, Speech.

TABLES OF ALL-UNION AVIATION RECORDS. 21 June 62 [19]p. FTD-TT-62-774.
Order from OTS or SLA $1.60 62-25759

Unedited rough draft trans. of Kryl'ya Rodiny (USSR) 1962 [v. 13] no. 3, centerfold insert.

DESCRIPTORS: *Aviation, Records, Pilots.

Duhinin, M. and Serpinskii, V.
SCIENTIFIC INFORMATION RETRIEVAL: SCIENCE AND INFORMATION. 29 Oct 62 [6]p. JPRS: 15926.
Order from OTS or SLA $1.10 62-33667

Trans. from Izvestiya (USSR) 1962, 12 Sep, p. 3.

DESCRIPTORS: *Science, *Information retrieval.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10 each. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-SOV/5952
Gutkin, Lev Solomonovich
THEORY OF OPTIMAL METHODS OF RADIO RECEPTION IN THE PRESENCE OF FLUCTUATION NOISE (Teoriya optimal'nykh metodov radiopriyema pri fluktuatsionnykh pomekhakh) Moscow, Gosenergoizdat, 1961. 487p. Errata slip inserted. 10,000 copies printed.

BR-SOV/5985
Rokotyan, Ye. S.
ROLLING INDUSTRY; HANDBOOK (Prokatnoye proizvodstvo; spravochnik) v. 1. Moscow, Metallurgizdat, 1962. 743p. Errata slip inserted. 9250 copies printed.

BR-SOV/5990
Zimin, Viktor Aleksandrovich
ELECTRONIC COMPUTERS; BASIC THEORY, DESIGN, AND APPLICATION (Eleltronnyye vychislitel'nyye mashiny; osnovy teorii, rascheta i primeneniya) Moscow, Mashgiz, 1962. Errata slip inserted. 21,000 copies printed.

BR-SOV/5998
Maslov, Yuvenaliya Aleksandrovich, and Vladislav Dmitriyevich Gorozhanin
AUTOMATIC WELDING OF HIGH-STRENGTH SHEET STEEL (Avtomaticheskaya svarka tonkolistovoy y vysokoprochnoy stali) Moscow, Mashgiz, 1961. 38p. 8500 copies printed.

BR-SOV/6005
Pul'tsin, Nikolay Mikhaylovich
TITANIUM ALLOYS AND THEIR APPLICATION IN MACHINE BUILDING (Titanovyye splavy i ikh primeneniye v mashinostroyenii) Moscow, Mashgiz, 1962, 166p. 7000 copies printed.

BR-SOV/6006
Stebakov, Yemel'yan Semenovich, and Vasiliy Yakovlevich Tarutin
SQUEEZE CASTING (Lit'ye vyzhimaniyem) Moscow, Mashgiz, 1962. 250p. Errata slip inserted. 5000 copies printed.

BR-SOV/6013
AUTOMATION OF PRODUCTION PROCESSES; MACHINE BUILDING, ELECTRIC POWER, ELECTRIC DRIVE, TRANSPORTATION (Avtomatizatsiya proizvodstvennykh protsessov; mashinostroyeniye, elektroenergetika, elektroprivod, transport) Moscow, Izd-vo AN SSSR, 1961. 490p. (Series: Its: Trudy [t. 5]) 5600 copies printed.

BR-SOV/6016
Gurov, Aleksey Fedorovich
JOINT VIBRATIONS IN GAS-TURBINE ENGINES (Sovmestnyye kolebaniya v gazoturbinnykh dvigatelyakh) Moscow, Oborongiz, 1962. 140p. (Series: Moscow. Aviatsionnyy institut. Trudy, vyp. 144) 2600 copies printed.

BR-SOV/6026
Rakovskiy, V. S.
FUNDAMENTALS OF POWDER METALLURGY (Osnovy poroshkovogo metallovedeniya) Moscow, Oborongiz, 1962. 87p. Errata slip inserted. 5550 copies printed.

BR-SOV/6027
Kolobnev, Ivan Filippovich
HEAT TREATMENT OF ALUMINUM ALLOYS (Termicheskaya obrabotka alyuminiyevykh splavov) Moscow, Metallurgizdat, 1961. 413p. Errata slip inserted. 6700 copies printed.

TRANSLATIONS IN PROCESS

ANNOTATIONS OF SCIENTIFIC RESEARCH WORK ON HYDROTECHNOLOGY COMPLETED IN 1958.
PL-480 mono. Annotatsii Zakonchennykh v 1958 Godu Nauchno-Issledovatel'skikh Rabot po Gidrotekhnike, Moscow, 1959, 500p.

HOT DRY WINDS: THEIR ORIGIN AND PROTECTIVE MEASURE AGAINST THEM.
PL-480 mono. Sukhoveis; Sukhovei Ikh Proiskhozhdenie i Bor'ba s Nimi, Moscow, 1957.

SYMPOSIUM ON QUESTIONS OF ORGANIZATION AND METHODS OF CENSUSING TERRESTRIAL VERTEBRATE FAUNAL RESOURCES 4-8 MAR 61.
PL-480 mono. Soveshchanie po Voprosam Organizatsii i Metodam Ucheta Resursov Fauny Nazemnykh Pozvonochnykh, 4-8 Marta 1961 G, Moscow, 1961, 151p.

Artsikhovsakya E. V. and Sokolova, V. E.
THE FORMATION OF ETHYLENE AND ACETALDEHYDES IN APPLE TISSUES (Ob Obrazovanii Etilovogo Spirta i Atsetal'degida v Tkanyakh Yablok).
PL- 480 Akademiya Nauk SSSR. Doklady, 1952, v. 84 no. 4, p. 765-768.

Azhasha, V. G. and others.
MODERN METHODS OF LOCATING HERRING BY THE USE OF HYDROACOUSTIC APPARATUS IN THE NORTH ATLANTIC IN FALL AND WINTER (Sovremennaya Metodika Poiska Sel'di Gidroakysticheskimi Priborami v Osennezimnii Period v Severnoi Atlantike).
PL-480 Akad[emiya] Nauk SSSR. Ikhtiologicheskaya Komissiya. Trudy Soveshchanii 1960 no. 10, p. 219-229.

Brasyavskii, A. P. and Vikulina, Z. A.
RATE OF EVAPORATION FROM RESERVOIR SURFACES.
PL-480 mono. Normy Ispareniya s Poverkhnosti Vodokhranilishch, Leningrad, 1954, 212p.

Budyko, M. I.
EVAPORATION UNDER NATURAL CONDITIONS.
PL-480 mono. Isparenie v Estestvennykh Usloviyakh, Leningrad, 1948, 135p.

Chervonenkis, Ya. M.
THE TRANSMISSION OF ENERGY BY DIRECT CURRENT.
PL-480 mono. Peredacha Energii Postoyannym Tokom, Moscow, 1948, 141p.

El'sgol'ts, I. E.
QUALITATIVE METHODS IN MATHEMATICAL ANALYSIS.
Unidentified mono. pub. Moscow, 1955, 300p.
Available from American Mathematical Society, 190 Hope St., Providence 6, R. I. Spring 63.

Fedorov, S. S. and others
DISTRIBUTION AND MIGRATION OF YOUNGER AND MEDIUM YEAR CLASSES OF THE ATLANTO-SCANDINAVIAN HERRING (Raspredelenie i Migratsii Atlanticheskо-Skandinavskikh Sel'dei Mladshikh i Srednikh Vozrastnykh Grypp).
PL-480 Akad[emiya] Nauk SSSR. Ikhtiologicheskaya Komissiya. Trudy Soveshchanii, 1960, no. 10, p. 66-72.

Galovachev, V. S. and Voevodin, V. A.
EFFECT OF LIGHT CONDITIONS ON VERTICAL MIGRATIONS OF HERRING (O Vliyanii Osveshchennosti na Vertikal'nye Peremeshchaniya Sel'di).
PL-480 Baltiiskii Nauchno-Issledovatel'skii Institut Morskogo Rybnogo Khozyaistva i Okeanografii. Trudy (USSR) 1960, no. 6, p. 124.

Hua, L. K.
HARMONIC ANALYSIS OF FUNCTIONS OF SEVERAL COMPLEX VARIABLES IN CLASSICAL DOMAINS.
Mono. [Garmonicheskii Analiz Funktsii Mnogikh Kompleksnykh Peremennykh v Klassicheskikh Oblastyakh] Moscow, 1959, 163p.
Available from American Mathematical Society, 190 Hope St., Providence 6, R. I. Spring 63.

Levin, B. Ya.
DISTRIBUTION OF ZEROS OF ENTIRE FUNCTIONS.
Unidentified mono. pub. Moscow, 1956 632p.
Available from American Mathematical Society, 190 Hope St., Providence 6, R. I. Spring 63.

Linnik, Yu. V.
THE DISPERSION METHOD IN BINARY ADDITIVE PROBLEMS.
Mono. [Dispersionyi Method v Binarnykh Additivnykh Zadachakh] Leningrad, 1961. 208p.
Available from American Mathematical Society, 190 Hope St., Providence 6, R. I. Spring 63.

Lyapin, E. S.
SEMIGROUPS.
Mono. [Polugruppy] Moscow, 1960, 592p.
Available from American Mathematical Society, 190 Hope St., Providence 6, R. I. Spring 63..

Makushok, M. E.
ON THE QUESTION OF THE DISTRIBUTION RANGE OF THE MURMAN HERRING AND THE CENTER OF THIS DISTRIBUTION RANGE (K Voprosu ob Areale Obitaniya Murmanskoi Sel'di i o Tsentre Etogo Areala).
PL-480 Gosudarstvennyi Okeanograficheskii Institut. Trudy (USSR) [1947?] no. 1(4) p. 3-66.

Markevich, A. P.
PARASITE FAUNA OF FRESHWATER FISHES OF THE UKRAINE.
Unidentified P.-480 mono., Kiev, 1951, 376p.

Marty, Yu, Yu., ed.
SOVIET FISHERIES INVESTIGATIONS IN NORTH-WESTERN ATLANTIC.
PL-480 mono. Sovetskie Rybokhozyaistvenniya Issledovaniya v Severo-Zapadnoi Chasti Atlanticheskogo Okeana, Moscow, 1962, 379p.

Metlitskii, L. V. and Tsekhomskaya, V. M.
FUNCTIONAL DISORDERS OF APPLES DURING STORAGE AND THEIR CONTROL (Funktsional'nye Rasstroistva u Yablok pri Khranenii i Mery Bor'by s Nimi).
PL-480 Biokhimiya Plodov i Ovoshchei (USSR) 1958, v. 4, p. 42-50.

Muromtsev, A. M.
PRINCIPAL HYDROLOGICAL FEATURE OF THE PACIFIC OCEAN.
PL-480 mono. Osnovnye Cherts Gidrologii Tikhogo Ikeana, Leningrad, 1958, 295p.

Razin, N. V.
EXPERIENCE IN THE CONSTRUCTION OF THE VOLGA HYDROELECTRIC POWER STATION.
PL-480 mono. Opyt Stroitel'stva Volzhskoi Gidroelektrostantsii imeni V. I. Lenina, Moscow, 1960, 282p.

Rubin, B. A., Sokolova, V. E., and Artsikhovskaya, E. V.
THE ADAPTATION OF RESPIRATORY GASEOUS EXCHANGE OF THE APPLE TO ITS ENVIRONMENT (O Prisposoblenii Dykhatel'nogo Gazoobmena Yablok k Usloviyam Sredy).
PL-480 Akademiya Nauk SSSR. Doklady, 1952, v. 85, no. 4, p. 859-862.

Rubin, B. A., Artsikhovskaya, E. V. and others.
CONCERNING THE ROLE OF INDIVIDUAL OXYDASES IN THE RESPIRATION OF APPLES (K Voprosu o Roli Otdel'nykh Oksidaz v Dykhanii Yablok).
PL-480 Akademiya Nauk SSSR. Doklady, 1952, v. 85, no. 5, p. 1123-1126.

Rubin, B. A. and Sal'kova, E. G.
DEHYDROGENASES OF APPLE TISSUES (Degidrazy Tkanei Yablok).
PL-480 Akademiya Nauk SSSR. Doklady, 1955, v. 102, no. 3, p. 571-573.

Rubin, B. A., Sokolova, V. E., and Artsikhovskaya, E. V.
ON THE ADAPTATION TO THE TEMPERATURE OF THE RESPIRATION OF APPLES (DURING THEIR DEVELOPMENT (O Prisposoblenii Dykhaniya Yablok k Temperature).
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